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General Articles

HELMINTHOLOGY: A CHAPTER IN COMPARATIVE MEDICINE*

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Although our Section is young, the point of view for which it stands is very old. Over 100 years ago John Hunter wrote:—

> "In the course of a variety of experiments on animals and vegetables I have frequently observed that the results of experiments in the one have explained the economy of the other and pointed out some principle common to both."

Comparative medicine, as Dr. Bradley has said, embraces the study of disease-processes in all conditions and with the help of all available means. The physicist, the chemist, the biologist and the physiologist, with no thought of the ultimate application of their discoveries, are daily adding to the store of linked ascertained facts from which the practitioners of human and veterinary medicine take what they need in the exercise of their lawful occupations for the relief of suffering and the prevention of disease.

Our constitution, you will remember, provides that the offices of vice-presidents, council and secretaries should be filled equally by practitioners of human and veterinary medicine and that the president be elected in rotation from these two branches of medical science. This somewhat rigid organisation had as its object the bringing together, at a common centre, of discussion, two groups of practitioners and investigators who previously had made few personal contacts.

Everyone will agree that on this, the social side, success has justified the means, but after carefully studying the papers and discussions of the past ten years I cannot help wondering if we are yet realising that integration of medicine, for which Sir Clifford Allbutt urged us to strive, in the opening address of our Section and for which Dr. Bradley subsequently, in 1927, pleaded so eloquently in his address, "What is Comparative Medicine?"[1]

There is a tendency, in danger, I fear, of becoming stereotyped, to invite speakers to deal with the human or veterinary aspects of a subject, according as they are medical or veterinary graduates, and to subdivide comparative medicine into two water-tight compartments. This, I feel sure, is a retrograde tendency. We are perhaps liable to forget that the privileged position which the State confers upon us, either as medical or veterinary practitioners, is only in respect of clinical practice, and that it has not conferred upon us any monopoly in the field of research; although, indeed, we are specially qualified to prosecute research successfully by the wide range of knowledge and the intensive training in minute observation with which our studies have equipped us.

In the study of comparative medicine it is our duty, as professional men, to keep a keen eye on those aspects which may assist in the practice of our professions, but we should not permit our attention to be wholly distracted from larger and more disinterested researches which reveal the great principles upon which the practice of the future depends. With the passage of years and the growing recognition of the fundamental importance of our subject, I hope the Section will see its way to enlarge its membership and further broaden its discussions by the admission of eminent biologists, biochemists and comparative physiologists. At present the membership of the Section numbers 184. Of these 57 are veterinary surgeons, 125 are medical, and only two are non-medical graduates.

Having thus exercised the privilege to which custom entitles me of making some intimate remarks on the affairs of the Section, I now turn to some general considerations concerning that branch of comparative medicine which deals with parasitic worms and is technically known as helminthology.

The subject has hitherto received little attention in this Section. By some it is still regarded as a narrow specialism, but there are many indications which point to a growing appreciation of its importance on the part of administrators and of the public. In recent years the sporting community in this country has financed special commissions to investigate "grouse" disease and "partridge" disease. In northern England a considerable fund has been collected for the study of parasitic diseases in sheep. Last year the new Agricultural Research Council appointed a special sub-committee to consider "the helminth parasites of immediate importance to farm stock."

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* President's Address to the Comparative Medicine Section of the Royal Society of Medicine, October 25th, 1933. Reproduced from the December, 1933, issue of the *Proceedings of the Royal Society of Medicine*, 27, 2, 127-134.

[1] *Proceedings*, 1927, xxi, 129 (Sect. Comp. Med., 1).

For some years now there has been a professor of helminthology in the University of London, a lecturer in helminthology in the University of Liverpool and in the University of Edinburgh in association with the Royal (Dick) Veterinary College. Helminthological posts have also been created at the Natural History Museum, at the Veterinary Research Laboratory at Weybridge and at the Institute of Animal Pathology at Cambridge. I must not omit to mention the staff of the Department of Helminthology in the London School of Hygiene and Tropical Medicine, and of the associated Institute of Agricultural Parasitology at St. Albans which is financed by grants from the Ministry of Agriculture.

Turning to the overseas Empire, in Canada Dr. T. W. M. Cameron now occupies the Chair of Parasitology which has recently been created in the McGill University at Montreal, and is Director of the Institute of Parasitology at Macdonald College. In South Africa, Professor Mönnig and Dr. Ortlepp hold whole-time posts for helminthological research. In Australia there is similarly a research staff under Dr. Clunies Ross, financed by the Australian Council for Scientific and Industrial Research. In India, helminthology is officially represented by Mr. Bhalerao on the staff of the Muktesar Imperial Institute of Veterinary Research and Dr. Maplestone at the Calcutta School of Tropical Medicine, and in Burma there is an active Helminthological Institute. In China, a department of helminthology is being established in the new Henry Lester Institute for Medical Research at Shanghai.

Moreover, throughout the Empire a considerable number of agricultural and veterinary officers, medical officers, botanists, entomologists, mycologists, plant pathologists and applied biologists frequently undertake helminthological research into special problems which arise in connection with their routine official duties. As an outcome of the Imperial Agricultural Conference in 1927, eight special bureaux for the collection and dissemination of information were established, and of these, one, the Imperial Bureau of Agricultural Parasitology, devotes at present its whole activities to the collation and review of helminthological literature.

Its recent publications enable one to form an estimate of the number of workers and the annual output of papers on helminthology throughout the world. For the year 1930 the Bureau traced 1,092 original papers written by 1,003 research workers and published in 410 scientific journals. In 1931 the numbers traced rose to 1,297 papers by 1,087 authors in 425 journals, and last year there was a further increase to 1,304 titles of papers by 1,171 authors which were published in 477 journals. Of course, many of these papers are not accessible in this country, but it is interesting to add that the Bureau thought worthy of review in *Helminthological Abstracts* 891 of the 1,304 papers published in 1932. These figures do not take into consideration the monographs, dissertations and text-books which also were published during these periods.

A considerable number of these papers deal with clinical or pathological data, but a large proportion relating to morphology and bionomics are contributed by professional zoologists. This continued activity is a healthy sign, for in the past the solutions of many of the fundamental problems of helminth parasitism of man and the domesticated animals have been reached by zoologists, whose training in comparative anatomy has specially fitted them to undertake these studies. As Leuckart pointed out in 1861:—

> "The relations which obtain between parasites and their hosts are in all respects conditioned by their natural history; and without a detailed knowledge of the organisation, the development, and the mode of life of the different species, it is impossible to determine the nature and extent of the pathological conditions to which they give rise, and to find means of protection against these unwelcome guests.
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> "Even small and apparently isolated facts become often of great significance in this connection, and hence the physician cannot afford to neglect matters which at first sight appear further removed from his department than from that of the zoologist.
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> "But just as little is it permissible for the latter to forget that the knowledge of the life-history of animals, after which he strives, is to be obtained by the investigation, not only of their organisation and development, but also of the position which each species occupies in the economy of nature."

The study of helminthology requires a knowledge not only of the structure and life-history of the parasites, but it also necessarily entails a working familiarity with many different groups of the animal kingdom, members of which may act as primary or secondary intermediate hosts for the larval stages and as definitive and reservoir hosts for the adults. Even in the limited field of human helminthology these intermediate hosts belong to the varied groups of insecta, crustacea, mollusca and fishes. For the control of these human infections an acquaintance with their specific characters and bionomics is often essential.

Of the value of comparative zoology I may perhaps be allowed to quote some historical illustrations. Leuckart, professor of comparative anatomy in the University of Leipzig, observed that the embryo of the guinea-worm in man and that of the nematode *Cucullanus elegans* commonly present in the intestine of

certain fresh-water fishes were identical in structure and possessed very peculiar characters. He showed that the Cucullanus embryo was swallowed by the cyclops and underwent its later development in its body cavity. On the basis of this striking comparison, Leuckart urged a young Russian naturalist, Fedschenko, who was then proceeding to Turkestan, to attempt to infect cyclops with guinea-worm embryos. His experiments proved successful in incriminating cyclops as the intermediate host of the guinea-worm and are the basis of guinea-worm prevention to-day. The second illustration is taken from the life-history of the digenetic trematodes. To-day we all know that the redia and cercaria are merely larval stages which occur between the miracidium and the adults in the life cycle of flukes. For many years, however, redia and cercaria were generic names for certain apparently unrelated asexual invertebrates. The rediæ were parasites of pond-snails and the cercariæ were free swimming forms classed among the Infusoria. That the redia had any association with the miracidium which develops within the trematode egg was quite unsuspected until von Siebold, examining the eggs of a trematode from a duck, discovered that in this species the miracidium within the egg-shell enclosed another body which was startlingly like the parasites described by Bojanus in the liver of pond-snails. Earlier von Baer had observed that certain fully developed rediæ similarly enclosed tailed bodies which escaped into water and swam about freely. These isolated observations were afterwards brought together by the Danish naturalist Steenstrup and are the fundamental data upon which our detailed knowledge concerning the life-histories of the trematodes of man and the domesticated animals is based.

In the search for intermediate hosts of the bilharzia worms of man I was able, by use of the comparative method, to reduce enormously the investigation of larval stages of trematodes found in naturally infected molluscs. A comparative study of the anatomy of the bilharzia worms with that of other distomes and amphistomes revealed the important fact that the pharynx constantly present in distomes and amphistomes was lacking in the schistosomes. An examination of the cercariæ of known distomes and amphistomes then showed that where the pharynx was present in the adult it was already present in the cercaria. It followed therefore that, of the numerous cercariæ found in naturally infected molluscs, all those having already developed a pharynx could be rejected and the investigation limited to those cercariæ in which the pharynx was lacking. Following the discovery of apharyngeal cercariæ, experimental work proved that the bilharzia worms did, in fact, belong to this small group.

The life-history of tapeworms affords a further example. Zoologists and comparative anatomists had observed the identity of structure between the heads of certain adult tapeworms in man and dog, and the contents of strange cysts in the tissues of various domesticated animals. These observations led Küchenmeister to attempt to determine their relationship by feeding to sheep tapeworm segments obtained from dogs. These experiments clearly demonstrated that the cysts were the larval stages of the tapeworm, and introduced experiments on animals as a new technique in the elucidation of disease.

The comparative method is, of course, the means by which our systems of zoological classification are built. Looss in 1899 revolutionised our conception of the relationships of digenetic trematodes by basing their classification on the comparative anatomy of their internal organs. This method was afterwards applied with complete success to the differentiation and classification of nematodes and cestodes.

The diagnosis of helminth infection by an examination of the fæces for ova was first practised by Davaine in 1860. This method has concentrated attention on the minute structure of the helminth egg and a series of careful comparisons has revealed the important fact that the characters of the egg-shell are not merely specific but are also correlated with the generic and sometimes the family characters of the adult.

Biological Races.—The morphology of helminths does not, however, suffice in every case to distinguish closely related forms from one another. There are, in some instances, biological races which have become more or less specialised to certain hosts. Thus the large ascarides of man and of the pig are morphologically identical, but it is now generally accepted as a result of experimental work that, under normal conditions, the human ascaris occurs only in man and the ascaris in the pig is a source of danger only to swine. Similarly *Ancylostoma caninum* in the cat and in the dog appear to be two distinct biological races. Another example is found in the tapeworm, *Dipylidium caninum*, of the dog and cat.

In plant-parasitic nematodes the prevalence of biological strains or races has assumed considerable economic importance in relation to certain crops. In *Heterodera schachtii*, which causes widespread losses in potatoes and sugar-beet, and occurs on many other crops, there are several distinct races which cannot transfer from one type of host to the other. In his recent book on plant-parasitic nematodes Goodey says that the evidence points to the occurrence in nature of an unspecialised race of this species which is able to parasitise chenopodiaceous, cruciferous and gramineous plants and four well-defined specialised races, each adapted to a limited range of hosts. Thus the potato strain, which is so

common in this country, is distinct from the strain on the sugar-beet which has caused great economic losses on the Continent but from which our own sugar-beet has fortunately hitherto escaped.

These modern discoveries open up a wide field of comparative physiology from which many new facts may be culled which have direct bearing on the prevention of helminth disease.

In recent years, as Freund has pointed out, there has been a tendency to over-emphasise the importance of the parasite to its host and to overlook the importance of the host to its parasite. We are apt to forget that the continued existence of the helminths as a group has depended on the survival of their hosts in adequate numbers and that the premature death of a host through the pathogenic action of one species of parasite necessarily terminates prematurely the reproductive life of many other species which may have been causing little harm to that host. It is therefore entirely in the interests of the helminths as a group that their hosts should be as little affected as possible.

In many forms of animal life we find that hosts and parasites live together in harmony and that there is a normal biological equilibrium subsisting between them; the host harbouring a small number of parasites and suffering no ill-effects from their presence. To this condition of peace and amity the host may even make a special contribution, for it has lately been shown that the presence of a small number of helminths may stimulate a physiological response on the part of the host tissues, of a potency just sufficient to prevent the establishment of additional parasites of the same species.

Possibly this physiological response explains, at least in part, that increased natural resistance of the host known as age immunity. On the other hand, Sandground has put forward the interesting suggestion that age immunity develops only in those hosts which are not normal hosts but the young of which, not yet being physiologically highly specialised, are invaded by the parasites of another species of host. As the host grows older and develops its specific physiological characteristics it ceases to be suitable ground for their growth and development. A striking example of this is found in *Syngamus trachealis* which, normally a parasite of adult turkeys, causes a heavy mortality in young chickens, but to which they are almost completely immune when they have attained the age of six weeks.

Acquired Immunity.—From a previous infestation by helminth parasites there may arise an acquired active immunity in the definitive host. A single infection with *Troglotrema salmincola*, a trematode infection of dogs and acquired by the eating of salmon, gives rise to complete immunity.

Several examples have been recorded of active immunisation produced by infestation with nematodes; in the rabbit by Sarles (1930); and in the rat by Africa (1931), and Winfield (1933). Stoll, in 1929, described the development of a marked resistance to later infestation in sheep which have previously been infected with the stomach worm *Hæmonchus contortus*. Rats infected with *Trichinella spiralis* acquire almost complete immunity against a second infection. Fairley, in 1930, recorded an interesting condition which occurred in experimental infections of monkeys with the cercaria of the cattle schistosome, *Bilharzia spindalis*. Although the young worms reached the liver and developed normally they disappeared from the portal system before reaching sexual maturity and conferred on the monkeys a temporary immunity which lasted about three months.

Working with cestode larvæ, Miller has shown that the albino rat, infected with *Cysticercus fasciolaris*, acquires an immunity against further infection. Rats with one or more cysts in the liver could not be hyper-infected, even when fed with a large number of the onchospheres of *Tænia crassicollis*. A similar immunity appears to develop in certain cases of invertebrate intermediate hosts. Cort has recently confirmed and extended Winfield's observation that the mollusc, *Lymnæa stagnalis*, after being infected with the larval stages of a duck trematode, *Cotylurus flabelliformis*, acquires a high degree of immunity. Certain changes are produced in the infested snail which prevent a penetration of cercariæ. With uninfested snails the cercaria starts to penetrate as soon as it comes into contact with an exposed surface and quickly disappears in the tissue, while a cercaria coming into contact with an already infested snail moves along the surface with a looping movement and soon swims away just as they do when they come in contact with an unsuitable host. Moreover, Cort has shown that a partial non-specific immunity may result, whereby a mollusc infected with the larval stages of one species of trematode may retard or inhibit the growth of the larvæ of another species.

Biological Controls.—Vast numbers of helminth eggs and larvæ must be destroyed continually by other organisms. We know of its practical importance in mines where cockroaches and beetles feeding upon human fæces destroy helminth eggs in large numbers. Similarly, on the farm, poultry must play some part, not yet fully assessed, in crushing helminth eggs as they pass through the gizzard, but no one has yet attempted to assess the rôle played by the microscopical fauna of the soil. This is a field which would well repay further inquiry.

Pathological Parasitism

So far we have considered the zoological aspect of the study of helminths, their morph-

ology, life-histories, natural enemies and the normal responses which they induce in their hosts. This we may call the study of "normal parasitism"; in contradistinction to the study of the causes and effects of excessive infestation and the injuries due to helminth migrations which may be termed "pathological parasitism." While those who wish to pursue this study of "normal parasitism" must accept the intellectual discipline of the zoologist, those who desire to study "pathological parasitism" must be prepared equally to submit to the intellectual discipline and training required of the clinician. For in the estimation of the effects of parasitism an intimate knowledge of the other diseases to which the host may be susceptible is requisite.

Helminth parasites, as is well known, do not give rise to successive generations within the same host. Their progeny only become infective after they have attained the exterior by one route or another. Under natural conditions this infective material is so widely dispersed and encounters such varied and unfavourable conditions that few succeed in reaching an appropriate host. To meet these hazards the helminths have acquired the capacity to produce vast numbers of eggs and embryos. This fact and the tendency of wild animals to segregate for the purpose of protection or reproduction, or to attain suitable food and water, has led to the occurrence of hyper-parasitism even in wild animals living in open range. Thus the rhinoceros, the zebra and the elephant in tropical Africa to-day are living helminthological zoos.

The protection afforded to game such as grouse and partridge, by the destruction of vermin and the imposition of closed seasons for breeding, leads to a great increase in numbers, a corresponding increase in the contamination of moors and fields with infected faeces and ultimately to intense helminth infestation, although their freedom to range has not been restricted.

The building of a primitive domicile, even of such a temporary character as a bird's nest, tends to form a focus for helminth infection, for Morgan has recently shown that in young starlings which had not yet left their nest, conditions of intense and multiple infestation prevailed.

When man ceased to be nomadic and became a domiciliary animal he also created more favourable conditions for the successful development not only of his own helminth parasites but also those of his dogs and his stock. It is a significant fact that man owes more to his associations with these animals than to his supposed primate ancestry for the helminth parasites he harbours. For these, with few exceptions, are identical with or closely related to species which occur in these domesticated animals. As might be expected, knowledge acquired by a comparative study of the parasites in this little community has been of the greatest service to each, both as regards their prevention and treatment and the understanding of their pathology.

With increase in numbers and segregation, the passage from normal to excessive parasitism tends to follow directly whenever climatic changes and other circumstances favour this attainment of the infective stage by the parasite, and indirectly where conditions are favourable to any increase and dispersal of intermediate hosts.

The conditions which ensure larval development are optimal moisture, temperature and soil aeration. These, of course, vary for different parasites. Some infective stages are immediately killed by drying; others can stand complete desiccation for weeks. The nature of the soil may have a very pronounced influence on the survival of helminth larvæ, its physical condition being perhaps more important than its chemical composition. Humus, which retains moisture and is of open texture, provides a much more suitable medium for nematode larvæ than heavy clay soil. These soil conditions operate equally in the spread of helminth infection in plants and animals.

Numerous cases could be cited of the effect of an increase in numbers of the intermediate hosts. In Egypt the change over from the basin type of irrigation to perennial irrigation resulted in an enormous increase in the molluscs which spread bilharzia disease and a leap from 10 to 90 per cent. in the infection of the population. In Australia, although the cattle there live under open range conditions, worm nodule has in recent times become an important economic problem, yet it is apparently of little consequence in Malaya whence it was probably introduced. Doubtless this remarkable spread of Onchocerciasis is associated with conditions exceptionally favourable to the as yet undetermined host.

Although we know that many hosts can harbour considerable numbers of parasites without showing symptoms of disease, we still lack, unfortunately, definite information as to the number of parasites which a healthy animal can maintain at any one time without the biological equilibrium between host and parasite being disturbed, or regarding the normal life-span even of the commonest and best-known forms.

Pathological parasitism develops when the susceptible animal incurs such a massive infection that the normal protective mechanism, to which I have already referred, fails. Such failure may be due to other intercurrent infections or it may follow from a deficient diet. The exact nature of the dietetic insufficiencies has been the subject of recent research by Ackert in America and Miss Clapham in this country. Foster and Cort have shown that dogs which had become resistant to *Ancylostoma caninum* after repeated infection developed

severe hookworm disease when placed on an inadequate diet and that a return to an adequate diet led to a loss of worms and their recovery from the disease symptoms. Closely allied hookworm species differ in pathogenicity. It is generally recognised that *Ancylostoma duodenale* is a more severe infection than *Necator americanus*. Some recent work in my own laboratory suggests that even within the species there may be biological strains of very different pathogenicity.

But in addition to these general reactions of the host to helminth invasion there are a number of other localised injuries which may arise from individual helminths, just as in our present-day community, which has now adapted itself remarkably to conditions of modern transport, severe and even fatal accidents may arise alike on the highways and unfrequented by-paths from a variety of unforeseen circumstances. Adult helminths, owing to their strength, frequently force themselves into ducts and natural channels of the body, and by their occlusion cause severe damage. They may pierce ulcerated surfaces in the bowel with fatal results. The growth pressure of individual specimens, as in cysticerci in the brain and hydatid in the liver, may cause severe and permanent disturbance of function. The normal migrations of larvæ and of young adults through the organs of the host *en route* to their final habitat in the body, may cause severe hæmorrhage and destruction of tissue, as in the wandering of the immature liver flukes through the substance of the liver before they enter the bile-ducts, or of the *Cysticercus tenuicollis* from the liver to the mesentery. Severe local lesions may also arise from the abnormal wanderings of parasites which, having entered the wrong hosts, manage to survive. Numerous instances of these have come under the notice of the medical helminthologist. *Fasciola hepatica* may form subcutaneous abscesses. Cutaneous nodules not infrequent in man in the Near East may contain immature specimens of the intestinal nematode *Gnathostoma spinigerum* which lives normally in the intestinal wall of carnivores. Lesions of the skin and of the internal organs result from the unnatural invasion of man by the plerocercoid larva of *Dibothriocephalus mansoni*, while single infective larvæ of *Ancylostoma ceylanicum* of the dog and cat entering the human skin cause creeping eruptions of prolonged duration, and the cercariæ of certain avian trematodes allied to the bilharzia worms have recently been shown to be the cause of intense discomfort to bathers in some of our public parks.

Much remains to be accomplished in the realms of both normal and pathological parasitism, but there has now been accumulated a very considerable body of exact helminthological data which ought to be applied in the field. This transition from the laboratory to the field is always a difficult step, and the student of applied helminthology must not leave entirely to others the practical application of his work until he feels assured that his results are being really effectively used.

IS JOHNE'S DISEASE INFECTIOUS?

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A small number of sheep have been reported as being infected with Johne's disease, and it has been definitely established by competent observers that they do suffer from this disease; but the cases are *very* few and far between. The question one has to ask is: "If Johne's disease is infectious, why are there so few cases?" The opportunity of becoming infected is not lacking: the only surprising thing is that Johne's disease is not as common in sheep as it is in cattle.

Mr. Johnston, reporting a case of what he considers to be Johne's disease in sheep, suggests that they became infected because during the months of February and March they grazed on land where cattle had been. A very large number of sheep are bred on the marsh lands of Kent, but owing to the strength of the pasture the lambs cannot stand the first winter there and have to be drafted to other areas for the six months from September 21st to March 24th. These lambs, in their thousands, are drafted all over Kent, Surrey and Sussex, to be kept by any farmer who will take them. The price ranges from about 21s. (that charged during the war) to about 7s. for the six months, and the farmer is only paid for the lambs delivered alive at the end of that time.

If there is any area in which there is a larger percentage of cattle suffering from Johne's disease than the one mentioned it must be difficult to find, and a large number of these lambs have every chance of picking up the germs over a period of not two months, but six. The number of infected lambs returning to the marsh land in the summer would be very large. That area should be a hot-bed of Johne's disease; but the actual fact is that no cases are reported. It is hardly likely that careful observers like Mr. McEwen and Mr. Roberts, who have been doing a lot of work with sheep in that area, would have missed this disease if it was to be found, and it would certainly have been reported to them.

The above evidence points to the fact that Johne's disease is not infectious for sheep but, in the few cases recorded, is due to the lack of some mineral on that particular farm, which weakens the animal and makes it a suitable soil for the propagation of the bacillus of Johne's disease.

It has been claimed that Johne's disease is infectious because the progeny of a cow that dies from Johne's disease will very frequently

die of that disease and have been infected by germs that have been ingested by sucking teats soiled with fæces from the cow. I have frequently met with cases where two and even three of the progeny of a cow that has died of Johne's disease have also died from that disease, but the same thing happens where the calves have been removed at birth and never allowed to suck the cow. The explanation appears to be that the cow has never had enough minerals for her own needs and milk supply and therefore the calf comes into the world already handicapped by a lack of minerals, is never able to recover from that handicap, and is almost certain to succumb at the first or second calving. This would account for the fact that a few bullocks, if bred from dairy cows, die of the disease. One sees (fortunately very seldom) a cow or heifer absolutely starved out or badly weakened from an accident and perhaps unable to stand up for two or three weeks before she calves and which yet has a strong, healthy calf that thrives and does well; but this does not happen in Johne's disease. I have seen several cases of Johne's disease kept alive with every care and attention, in order to get the calf from them, but the calf was never of any use: in this way it is possible, in point of fact, to say whether a case is one of Johne's disease or of some other condition.

There is one warning that should be given about feeding minerals: in a herd where Johne's disease is prevalent it is no use feeding just the correct amount of minerals. There is a big shortage to be made up in the cow's system before she returns to normal, and unless the owner is prepared to have the disease die out gradually he must feed an excess for the first four to six months. I do not think that anything less than five ounces a day will be of any value and in very heavy milkers probably ten ounces would be required. I have had a striking instance of this in a herd that I have known from its inception. The losses from Johne's disease became very heavy, culminating in eight cows dying in about 14 months. During this year the owner was feeding cake that contained minerals in the exact proportions requisite to meet a cow's natural requirements and he has continued to feed this cake up to the present time. The losses gradually declined after the peak had been reached and for the last two years or more there has not been another case.

Another mistake that is made is feeding cake and other concentrates: the minerals in the cake are in the right proportion but the balance is upset by the other concentrates and the cows do not get sufficient. The best advice that can be given to the farmer is not to spare the mineral until the disease has died out for a year at least, and always to use a complete mineral mixture. Some soils will be lacking in one mineral and some in another.

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THE IMPORTANCE OF HELMINTHOLOGY IN COMPARATIVE MEDICINE

In this issue we have the pleasure of reproducing the most interesting and instructive presidential address delivered by Professor R. T. Leiper to the Section of Comparative Medicine of the Royal Society of Medicine. No one is better qualified than Professor Leiper to review the position of helminthology and to summarise the main facts concerning the progress of this very important branch of comparative medicine. It is gratifying to note with him the growing recognition of the importance of the subject and the increasing facilities for helminthological research, more particularly in relation to the diseases of animals.

The importance of helminths as a cause of disease hardly needs to be stressed with veterinarians, the majority of whom must have had some personal experience of the serious forms that parasitic disease may take. All species of domestic animals may suffer considerably from the attacks of parasitic worms, but the most serious effects are undoubtedly seen in sheep, and the losses of sheep farmers from parasitic disease may be extremely heavy, and even disastrous. It is well known that widespread and really ruinous losses have in certain years been caused by the liver fluke, and the losses from verminous gastritis are hardly less serious.

The greater recognition of the importance of the subject is gratifying, but much remains to be done. In the first place, we need far more research, and it may certainly be claimed that research has already demonstrated its possibilities in repaying with generous interest the money expended upon it. As instances of this, we may cite the chemo-therapeutic treatment of fluke infestations and that form of verminous gastritis which is associated with the presence of *Hæmonchus contortus*. In connection with infestation with *Hæmonchus contortus*, it may be pointed out that this parasite has caused very severe losses in many countries of the world, including Great Britain, but investigations carried out in several countries have led to effective control, and losses from this cause should not now occur, or should occur only rarely and over a short period. In South Africa, where formerly the infestation was widespread and frequently serious, the investigations of the Veterinary Research Division, under Sir Arnold Theiler, led to the issue of a "wire-worm remedy." Within a very short time there was an annual demand for this agent of many

millions of doses, and to-day the progressive sheep farmer in South Africa does not wait for ill-effects to appear. His sheep, although apparently in perfect health, are regularly treated for *Hæmonchus* infestation.

Professor Leiper emphasises the value and importance to our knowledge of helminthology of the contributions of the zoologist and comparative anatomist. No one would dispute that value, or doubt the need for the continuance of the work of the zoologist, who may approach the problems of helminthology without any thought of economic needs or practical applications. Professor Leiper also recognises, however, the importance of the study of pathological parasitism and the need for its investigators to "submit to the intellectual discipline and training required of the clinician." It would be impossible to doubt the need for extended research in "pure" helminthology and the problems of normal parasitism, or to believe that this branch has yet received all the attention and support that it merits, but we believe that the investigation of pathological parasitism is in greater and more urgent need of encouragement. The problems of pathogenicity and immunity, and the underlying causes of excessive infestation, have received very little concentrated and sustained investigation, and it is for this reason that we particularly welcome the appearance in increasing numbers of "veterinary helminthologists," who combine specialised zoological training with the training and discipline of the veterinary clinician.

Professor Leiper refers briefly to the question of diet in relation to parasitic infestation, and it is certain that the operation of nutritional factors in relation to parasitism is an important, and as yet almost unexplored, field of research.

To the veterinary profession and the stock owners, the most important matter is perhaps the application of the facts revealed by research, and as pointed out by Professor Leiper, the transition from the laboratory to the field is sometimes a difficult step. Some instruction in parasites and parasitic disease has for many years been given in all veterinary colleges, but the Royal College of Veterinary Surgeons has undoubtedly acted wisely in giving to the subject a more prominent place in its revised curriculum.

The Irish Bloodstock Breeders' Association has pointed out to Dr. Ryan, Irish Free State Minister for Agriculture, that, unless the Government grant is sufficiently increased to offset the Association's decline in revenue from other sources, it will be unable to continue its campaign for increasing the popularity of Irish-bred horses throughout the world.

Clinical Report

AN INTERESTING OVARO-HYSTERECTOMY (CAT)

H. W. CARBURY, M.R.C.V.S.
Auckland, New Zealand

The following are the facts of an ovaro-hysterectomy on a cat, which may be sufficiently interesting for publication.

The subject was a half-bred Persian cat, in kitten for the fourth time and in trouble at parturition. The cat was in a very emaciated condition, her temperature was 103·5°F., and delivery of kittens in the ordinary way was impossible. Ovaro-hysterectomy was performed and, in addition to the ordinary post-operative treatment, the cat received Abram's electronic treatment daily for seven days. The animal was returned to the owner on the tenth day and recovery has been uneventful. On the fifth day after operation there was a small quantity of blood-stained fluid discharged from the vagina.

Examination of the contents of the uterus showed one kitten to be dead, and commencing to decompose; at the apex of each cornu was a jelly-like mass of decomposed material containing embryonic bones and claws.

At the previous parturition, nine months ago, this cat gave birth to two dead kittens, and since then had been in an unhealthy condition.

THE SALE OF PURE MILK

Mr. Sidney Foster, general manager of the Milk Marketing Board, who was the guest of the National Milk Publicity Council at a recent luncheon, assured the Council of the wholehearted support and co-operation of the Board, and suggested that the Board might collect from the producers a levy towards carrying on the publicity work that has been undertaken by the distributors of milk.

Sir Merrik Burrell, President of the National Milk Publicity Council, in the chair, said that, although the initial work of the Milk Marketing Board was to organise the milk trade, it would be in the future a huge selling agency. Its main responsibility would be to sell the greatest possible amount of milk at the best possible price. That could not be done without adequate publicity, and the Board had therefore a right to insist on the producers producing an article that it could really advertise to the public. That meant that the Board must insist that the men who were lagging behind in the great advances in the production of clean milk must come into line.

The doctors had a good case in defending the public from milk-borne disease, although many people thought that the medical profession had overstated its case. Those who produced high grades of milk must be assured of a sale for them, and it was up to the medical profession to advise the use of such high grades and so create a demand for the supply. He would like to see a national scheme for the eradication of disease from the herds, with a preferential price for milk from accredited herds.

Abstracts

[The Bacteriology of Spleens in the Preparation of the Laidlaw-Dunkin Canine Distemper Prophylactic. Pyle, Norman J. *Jl. A.V.M.A.*, N.S., *36*, 5, 618-625. Figs. 2. Table.]

This well-known investigator on the staff of Lederle Laboratories, in presenting this paper at last year's annual meeting of the A.V.M.A., must have done much to dispel the doubts among his American colleagues concerning the Laidlaw-Dunkin findings, indicated in his opening paragraph: "Apparently the etiology of canine distemper is still a moot point. Although certain investigators within recent years have demonstrated most conclusively that the factor is a filterable virus, there still persists the thought that *Alcaligenes bronchisepticus* (Ferry) is the causative agent." Himself a firm believer in the filterable virus as the responsible agent, he here supplies convincing confirmatory evidence that while true distemper can be conveyed by the inoculation of bacteriologically-sterile spleen tissue from infected dogs and ferrets, the presence of *A. bronchisepticus* cannot be demonstrated during the uncomplicated or filterable virus stage of the disease; in other words, before the period of secondary bacterial invasion has set in.

The 180 spleens from distemper-infected animals (146 puppies, 13 adult dogs and 21 ferrets) were removed late in the filterable-virus stage of the disease, at a time when the second rise in temperature reached a high level simultaneously with the appearance of the characteristic distemper rhinitis and conjunctivitis; and, while *A. bronchisepticus* was entirely absent, *Salmonella enteritidis* was isolated from 20 spleens and an unknown micrococcus and *Staphylococcus albus* from one spleen each in the puppy group, and, in the adult dog group, *S. enteritidis* in two instances. In all other cases the spleens were bacteriologically sterile.

Suspensions of the "sterile" puppy and ferret spleens, passed through Seitz filters, and injected into puppies, produced a typical canine distemper diphasic rise of temperature with characteristic attending clinical symptoms, while subcutaneous injections of *S. enteritidis* into a group of twelve puppies produced a septicæmia in which the temperature curves and clinical symptoms bore no resemblance to distemper and which proved fatal to ten of the twelve test animals from seven to 24 days after the injection.

The author's results have always indicated that the ferret is not susceptible to the usual complications seen in dog distemper; in this investigation injections of *S. enteritidis* also failed to prove pathogenic, except for the production of local abscesses.

W. B.

[On Ocular Sparganosis. (Trans. title.) *Bull. de l'Acad. Vét. de France, 6*, 8, 355-356]

This is a discussion and presumably a resumé, by M. Henry, of a paper submitted to the Veterinary Academy by M. Evanno. The paper was entitled "Contribution to the Study of *Sparganum mansoni*, of *Dibothriocephalus mansoni* and of the Pathology of Ocular Sparganosis."

In the Far East, and particularly in Annam, Tonkin and Cochin-China one commonly meets more or less fibrous tumours in the orbital region in man. They are caused by cestode larvæ known as *Sparganum mansoni*. *S. mansoni* has been met in numerous animals, but mostly in frogs, Evanno finding that 40 per cent. of frogs at Hué were infected and frequently contained 10-20 larvæ in the legs and abdominal muscles. When these were fed to dogs they developed into adults in the intestine known as *Dibothriocephalus mansoni*. The same evolution was traced with larvæ from human lesions.

It was generally believed that when larvæ were ingested by man they migrated from the intestines through the tissues to reach and settle in the orbital region. Collin in 1923, however, suggested that there was a direct infestation by the conjunctival route but several experiments were made on rabbits with negative results.

Evanno reports that in 1926 he was questioning an Annamite, who said he had always suffered with his eyes and that on the advice of his neighbours, he had applied to his right eye an eviscerated frog, holding the abdominal wound to his open eye for a quarter-of-an-hour. The next day pruritus was marked and after several days his eyelids became tumefied. Later, a surgeon extracted eight Sparganum larvæ. Evanno then repeated the experiments of Collin on four monkeys and obtained positive results in two, thus concluding that infestation by the conjunctival route is normal and that the frequency of the condition in the Far East is due to the curious customs in the home treatment of ocular conditions.

J. S.

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[The Chemotherapy of Œsophagostomiasis in Sheep. Mönnig, H. O. (1933.) *Onderstepoort J. Vet. Sci. Anim. Indust., 1*, 1, 67-76.]

Preliminary tests indicate that the problem of treating œsophagostomiasis in sheep can only be solved when a method is evolved for dosing directly into the abomasum. The best results followed when relatively insoluble drugs were used, as these reach the colon unchanged. Arsenious sulphide and sodium fluosilicate proved the most promising of 72 different drugs used experimentally.

R. T. L.

(Contributed by the Imperial Bureau of Agricultural Parasitology.)

[**Worm Infestation of Lambs.** Robertson, D. (1933.) *Scot. J. Agric., 16,* 3, 320-327.*]

Robertson in this paper impresses on the farmer the danger to lambs from parasitic worms and especially the lesser stomach worm *Ostertagia circumcincta* of which the symptoms, life-history and control are described. As the larvæ require ten days to hatch it is theoretically possible to secure worm-free lambs by placing in-lamb ewes on pastures which have never carried sheep and grazing the field in sections by a ten-day shift. The results of such an experiment made at Craibstone in 1932 are recounted.

R. T. L.

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[**The Administration of Anthelmintics to Horses in Bran.** Mönnig, H. O., and Marais, I. P. (1933.) *Onderstepoort J. Vet. Sci. Anim. Indust., 1,* 1, 59-61.*]

The method of administering the anthelmintics, carbon bisulphide, carbon tetrachloride and oil of chenopodium in bran to horses described as highly effective by Roger, Jouveaux and Plateau, in 1928, has been found by Mönnig and Marais to be quite ineffective against strongyles and ascarids. The administration of carbon bisulphide by stomach tube was completely effective against ascaris and fairly effective against strongyles.

R. T. L.

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[*CYSTICERCUS CELLULOSÆ* **in Dogs.** (Trans. title.) Meijer, W. C. P. (1933.) *Ned.-Ind. Bladen v. Diergeneesk. en Dierenteelt, 45,* 3, 135-137.]

Meijer gives records of *Cysticercus cellulosæ* in slaughtered dogs. Dogs are frequently slaughtered for consumption in the Tapanoeli province of Java. The parasite was found in five of 2,199 dogs slaughtered in eleven months and in 20 of 1,632 pigs in the same period. In dogs the parasites are situated most frequently in the heart muscle, also in other muscles and in the liver and the brain. In one case, only the liver was infested and in another, only the brain.

H. M.

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[**Railway Accidents Involving Injury to Animals.** (Trans. title.) Goulay. (1933.) *Recueil de Méd. Vét. de l'Ecole d'Alfort., 109,* 9, 546-553.]

A case is cited in which four bulls and three milch cows were transported in the same railway truck. Two bulls and one of the cows became free during the journey, and the cow was fatally injured.

Litigation centred around the value of the cow and difference between this and the salvage obtained. Also under which tariff the animal was despatched (difference of opinion of the two parties).

The owner lost his case and costs, not by reason of any tariff conditions, but because he himself made a grave error in tying up his animals together in one truck.

C. V. W.

* *Contributed by the Imperial Bureau of Agricultural Parasitology.*

Reviews

[**First-aid Hints for the Horse Owner: A Veterinary Notebook.** By W. E. Lyon, with Illustrations by Humphrey Dixon. Pp. 128. London: Constable and Co., Ltd. 1933. Price 8s. 6d. net.]

This appears to be the latest addition to the recent spate of more or less popular books on the management and ailments of the horse. It contains some useful information on lameness, injuries, skin disease, dentition, breeding, shoeing and nursing. The explanations of the nature of a few of the ailments of the horse's limbs are not quite correct, but this shortcoming should not materially detract from the usefulness of the book to those for whom it is intended. In practice, the application of a tourniquet to the hind limb above the hock, as figured on p. 49, is not free from risk of accident to stableman or horse. The numerous illustrations merit commendation; they are excellent and greatly enhance the value of the book.

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[**Horse Owner's Guide.** Published by the National Horse Association of Great Britain, 12, Hanover Square, London, W.1. Price 6d.]

A very useful booklet, at the small price of sixpence, has been compiled by the Council of the National Horse Association of Great Britain. It is a series of chapters contributed by well-known authors who are specially conversant with the subjects on which they write. The booklet is intended primarily for the novice, but all owners who take a personal interest in their mounts will appreciate the expert knowledge contained in the articles. It is quite obvious that horse riding is now definitely on the increase, and that riding schools are springing up in all parts of the country. Amateurs who are enjoying the pleasure of riding for the first time will find the contents of the booklet of much practical help and benefit.

A short description of "The Breeds of Light Horses and Ponies" is contributed by Captain Alec Campbell. Lieut.-Colonel Sidney G. Goldschmidt writes on "Grooming, Trimming and Clipping of Light Horses." He also contributes a chapter on "The Feeding and Exercising of the Light Horse." Major H. Faudel-Phillips deals with the subject of "Buying a Child's

Pony," and "Hints on the Purchasing and Care of Saddlery." Mr. D. Carson, Secretary of the National Master Farriers' and Blacksmiths' Association, contributes a few useful "Hints on the Shoeing of Riding Horses." A chapter on "The Provision of Grants for Horse Breeding" is from the pen of Major-General Sir John Moore, this year's President of the National Horse Association. Mr. Cecil G. Argles, who is Chairman of the Slippery Roads Committee of the Association, and who has gone to an infinity of pains to discover the most suitable material to prevent slipping, visiting the majority of roads in Great Britain for that purpose, gives his experienced opinion in an article on "Non-slip Roads for Horse Traffic." The concluding chapter, by Mr. R. A. Brown, the Secretary of the National Horse Association, places on record the work of the Association, its aims and objects, which include the endeavour to supply full information on any subject connected with horses and ponies to members and non-members alike, and it is at all times open to receive suggestions whereby its activities may be extended.

Copies of the booklet may be had on application to the Secretary, National Horse Association, 12, Hanover Square, London, W.1, price 6d., *plus* 2d. extra for postage.

HEAVY MILK YIELDS

"Breeding for heavy milk yields has been so successfully practised during recent years that the difference between the best and the average dairy animals is somewhat startling," says *The Farmer and Stockbreeder*. "The average for the country is about 500 gallons, or just over two tons, per cow. The highest British yield by one cow in 365 days is 3,612 gallons, given by a British Friesian, bred in Scotland.

"For some time two remarkable Friesians have been striving for the record total output of milk during a lifetime. This record was held for some years by Terling Ivory VIII, with 15,086 gallons, or over 67¼ tons, of milk in her career. Two cows have broken that record and are still living. One, Eccleshall May Queen, owned by Mr. V. E. Vickers (Staffordshire), has given 17,605 gallons, or more than 78½ tons, since her first calving on April 22nd, 1921. Her rival is Sudbourne Flossiewijk, owned by Miss E. Martin Smith (Yorkshire). Flossiewijk, one year younger than May Queen, has produced 17,186 gallons, or over 76½ tons. She will be 14 in September.

"May Queen, which has the advantage at the moment, was bred by Mr. Vickers from an inexpensive heifer purchased by chance. Since April, 1921, she and her 13 female descendants have produced 252 tons of milk."

* * * * *

When Dr. G. E. Corwin was Deputy Commissioner of Domestic Animals in Connecticut, he encountered a case of rabies in a dog where this animal travelled through eight towns, a distance of 147 miles, and was known to have bitten 93 dogs. This unusual observation is included in an article that is contained in the booklet, "Canine-Feline Practice."

ROYAL COLLEGE OF VETERINARY SURGEONS

Quarterly Meeting of Council

A Quarterly Meeting of Council of the Royal College of Veterinary Surgeons was held at 10, Red Lion Square, London, W.C., on Friday, January 5th, 1934, Professor S. H. Gaiger, F.R.C.V.S., President, occupying the chair.

The following members of Council, also, signed the attendance book: Major J. Abson, Dr. O. Charnock Bradley, Lieut.-Colonel J. W. Brittlebank, Professor J. B. Buxton, Captain J. C. Coleman, Professor J. F. Craig, Major G. W. Dunkin, Sir Frederick Hobday, Messrs. J. Holroyd, R. Hughes, Major Hamilton Kirk, Messrs. G. H. Livesey, G. H. Locke, Sir John M'Fadyean, Mr. J. W. McIntosh, Professor J. Macqueen, Mr. G. P. Male, Captain T. M. Mitchell, Mr. W. Nairn, Dr. A. Leslie Sheather, Lieut.-Colonel P. J. Simpson, Captain R. Simpson, Major A. Spreull, Captain W. K. Townson, Colonel G. K. Walker, Mr. J. Willett, Captain W. G. Wragg and Lieut.-Colonel T. Dunlop Young.

The President: As this is the first meeting in the New Year, I should like to take the opportunity of wishing the Council, in all its deliberations, a successful and a happy New Year. (Applause.)

The minutes, having been printed and circulated, were taken as read and signed as correct.

Obituary.—The Registrar read the list of members and fellows whose deaths had been recorded during the past quarter, all the members of Council upstanding.

Correspondence.—(1) From the Royal Institute of Public Health inviting the College to send delegates to the next Annual Congress of the Royal Institute of Public Health, which will be held in Norwich from Tuesday, May 15th, to 20th. The Secretary informed the Council that there would be sections on State Medicine, Industrial Hygiene, Tuberculosis, Veterinary Medicine and Agriculture, and Pathology and Bacteriology.

It was agreed to send a delegate, and the President (or his nominee) was asked to attend.

(2) From the Secretary of the Royal Sanitary Institute inviting the appointment of a delegate to the Forty-fifth Health Congress and Exhibition of the Royal Sanitary Institute, which will be held from July 9th to 14th in Bristol. It was stated by the Secretary that there would be a section of Veterinary Hygiene, of which the President would be Professor Share-Jones.

The Council again agreed that a delegate be sent and that he be the President or his nominee.

(3) From Messrs. Dodd, Dolan, Donnelly, Mattinson, Professors Whitehouse and Wooldridge, apologising for absence.

ADMISSIONS TO MEMBERSHIP

The Registrar reported the list of newly-admitted members of the Royal College as the result of the examinations held in December.

Colonel Walker: I should like to propose that, in future, members, after passing their examinations, be invited here to receive their diplomas from the hands of the President.

Mr. Livesey: I will second that.

Mr. McIntosh: It will involve a considerable amount of expense in many cases.

Colonel Walker: I specifically said those who can come.

The President: Your motion is that they be invited?

Colonel Walker: Yes.

Colonel Brittlebank: I move as an amendment that the matter be referred to the Examination Committee for their consideration and report.

Professor Bradley: I second that.

Colonel Walker: I accept that, Sir.

The President: I will put it to the meeting that the motion be referred to the Examination Committee for report. (Carried.)

Reports of Standing Committees

Finance and General Purposes Committee.

Mr. McIntosh read the report as follows, and moved its reception and adoption, Colonel Brittlebank seconding the motion, which was carried:—

The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

Examiners' Fees.—The following report of the Finance Sub-Committee on Examiners' Fees, held on January 4th, was read and adopted:—

The Secretary read the reference as follows:—

Minutes of Council, October 6th, 1933, 5 (ix).—"The question of the amount of fees and expenses paid to Examiners under the five years' course was considered and it was resolved:—

"That the matter be referred to a sub-committee consisting of the Chairmen and Vice-Chairmen of the Examination and Finance and General Purposes Committees, together with the Treasurer and Mr. Holroyd."

Professor Buxton was appointed to the chair.

The question of the method of payment of Examiners under the five years' course was considered and it was resolved to recommend the following scale:—

A subsistence allowance of 25s. per day, in addition to first-class fares;

A fee of 14s. per hour occupied by the examination of candidates, with a guaranteed minimum fee per centre of examination of £3 3s.

House Sub-Committee.—The following report of the House Sub-Committee, held on January 4th, was read and adopted:—

The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

The Secretary reported the result of further enquiries made with regard to the adjoining property. It was resolved to recommend:—

(*a*) "That the Secretary be authorised to instruct the surveyors employed by the College, Messrs. Smith and Merrett, to make an examination of the present site and building, and to state whether, in their opinion, it would be possible to provide on the present site additional accommodation as under, and if not, to what extent the requirements could be met:—

Extension of the Library to double its present shelving capacity;

Two rooms for offices, and waiting room;

Additional cloakroom and lavatory accommodation;

Robing room and Council retiring room;

Store rooms.

(*b*) "The maximum size of the rooms which could be provided to be stated in each case."

Financial Statement.—The Treasurer submitted his Financial Statement for the Quarter, showing a balance in hand of £2,066 1s. 6d.; £700 on deposit, and liabilities amounting to £269 17s.

The Treasurer's Statement was adopted, and he was ordered to pay the liabilities shown, together with cheques for current expenditure.

Annual Fees.—The Secretary submitted cases of 13 members in arrears with Annual Fees and was instructed to take proceedings in the county court for the recovery of the fees in eight cases.

Local Secretaries' Salaries and Expenses.—It was resolved: "That the consideration of the fees and expenses payable to Local Secretaries for examinations held in Edinburgh, Glasgow and Liverpool be referred to the existing sub-committee consisting of the Chairmen and Vice-Chairmen of the Finance and Examination Committees, together with the Treasurer and Mr. Holroyd."

Fellowship Examiners' Fees.—It was resolved: "That the fee payable to examiners for examination of Fellowship theses be increased to £3 3s. In cases where an oral examination is required, the total fee to be £4 4s."

President's Chain.—The Secretary reported that the President's chain would shortly require additional links, and the matter was referred for consideration and report to the House Sub-Committee.

Investments.—The Treasurer was authorised to invest the sum of £700, now on deposit, in a suitable security.

Examination Committee.

Professor Buxton read the report, dated January 4th, as follows, and moved its reception and adoption, Major Spreull seconding the motion:—

The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

REPORTS OF SUB-COMMITTEES. (*a*) D.T.V.M. and H.—The report of the Sub-Committee on the Diploma of Tropical Veterinary Medicine and Hygiene, including draft regulations for the award of the Diploma, was submitted and approved for the purpose of submission to the Council for adoption as Bye-laws.

(*b*) Animal Husbandry and Higher School Certificates.—The following report of the

special sub-committee, dated January 3rd, was read and adopted:—

The Secretary read the references as follows:—

Minutes of Council, October 6th, 1933.

Paragraph 6 (iv) (*e*).—That the report on the Examination in Animal Husbandry and Stable Management be submitted for consideration and report to a sub-committee consisting of the President, Chairman, Vice-Chairman, Mr. Livesey, Mr. Male and Professor Wooldridge.

Paragraph 6 (viii) (ii).—That the report submitted by Dr. Lander and Dr. MacDougall be referred for consideration and report to the sub-committee appointed in paragraph (iv) (*e*).

Professor Buxton was appointed to the chair.

Animal Husbandry Examination.—Reports from the Examiners in Animal Husbandry were submitted and considered.

It was resolved to recommend:—

(*a*) That the Bye-laws regarding the examination in Animal Husbandry be amended to provide that the period of instruction in this subject shall be spread over two sessions, not less than 120 hours being devoted to the subject, of which not less than 60 hours should be practical instruction.

(*b*) That the examination be held at the end of the second year as part of the second examination.

(*c*) That the syllabus of examination in this subject be amended to read as follows:—

(iii) *Animal Husbandry* (i).—Practical and oral examination, one hour.

Manipulation and restraint.
Vices.
Harness, fitting and adjusting.
Measurement and ageing.
Herd management and care of animals in the open and in buildings.
The principles of horsemastership.
The principles of shoeing normal horses.
The recognition of the principal breeds of domesticated animals in this country: Horses, Cattle, Sheep, Goats, Pigs, Dogs, Cats, Poultry. Conformation, points, and descriptive markings.

Course of Instruction.—Two sessions, not less than 120 hours, of which not less than 60 hours must be practical instruction.

(*d*) That the second paragraph of Bye-law 62 be deleted.

Higher School Certificates.—The report by Dr. Lander and Dr. MacDougall on the syllabus of examination for Higher School Certificates in Chemistry and Physics and Biology was considered.

It was resolved to recommend:—

"That the following additions be made to Bye-law 62:—

(i) In line 1 insert the letter (*a*) after (1) and in line 8 the letter (*b*) after the word 'and.' At the end of the Bye-law add:—

(ii) The examinations for Higher School Certificates recognised by the Board of Education shall be deemed to be approved examinations for the purpose of paragraph 1 (*b*) of this Bye-law, provided that the candidate has passed in the subjects of Chemistry and Physics, and either (*a*) Biology or (*b*) Botany and Zoology, as group or main subjects.

"That the following additional Bye-law be recommended for adoption:—

Candidates who produce evidence that they have passed in either Chemistry or Physics or Biology, as group or main subjects at an examination for the Higher School Certificate shall be exempted from further examination in the subject in which they have passed."

Reports on December Examinations.—Reports of the Chairman of the Court of Examiners and Delegates at the examinations held in December were submitted and approved. It was resolved: "That the thanks of the Council be conveyed to those persons and institutions that had rendered assistance in the conduct of the examinations."

Fellowship Examination.—The Secretary reported that four theses for the Fellowship Diploma had been submitted, and read the reports of the Examiners as follows:—

"*No. 91.*—The thesis cannot be accepted in its present form, as it contains work done by the candidate in collaboration with another worker, and already published. It is recommended, however, that the candidate be given the option of resubmitting the results of his own work in a revised form.

D. C. Matheson,
T. J. Bosworth."

"*No. 92.*—Thesis on 'Necrotic Enteritis and its Differential Diagnosis,' by Mr. E. F. Beckett. The thesis is satisfactory as regards literary presentation and in other respects and is generally of such excellence as to justify the exemption of the candidate from any further test.

W. H. Andrews,
S. J. Motton."

"*No. 95.*—The thesis cannot be accepted as reaching Fellowship standard.

A. W. N. Pillers,
E. L. Taylor."

"*No. 96.*—The thesis cannot be accepted as reaching Fellowship standard.

T. J. Bosworth,
F. T. Harvey."

It was resolved: "That the reports of the Examiners be approved, and that the Fellowship Diploma be conferred on Mr. E. F. Beckett."

Educational Certificates.—The Secretary submitted a list of Educational Certificates Nos. 4378-4428, 4431-4434, which satisfied the requirements of the College and had been accepted.

Concessions and Exemptions. (*a*) *Preliminary Examination.*—It was resolved: "That the Educational Certificates submitted by Candidates Nos. 4436, 4437, 4438 be accepted.

(*b*) *Bye-law 62.*—It was resolved: "That exemption under Bye-law 62 be granted in the following cases: Nos. 4429, 4435.

(*c*) *Bye-law 95.*—It was resolved: "That exemption under Bye-law 95 be granted in the case of Candidate No. 4430, conditional on his submitting himself to a special examination in Pathology, in addition to the subjects prescribed by the Bye-law."

Examination Fees.—It was resolved: "That the examination fee paid in respect of Candidate No. 3004 be returned, and that the examination fee paid by candidate No. 3441 be held over to the next examination."

Students of Mature Age.—It was resolved to recommend: "That the following addition be made to Schedule I:—

'Candidates over 21 years of age on October 1st in the year of their application and

who are not in possession of one of the certificates in general education referred to above, may under exceptional circumstances be admitted to the Veterinary Course at the discretion of the Council provided they submit with their application evidence of previous education and attainment which the Council may in any particular case resolve to accept *in lieu* of one of the foregoing certificates. The fee for registration under this provision is £2 2s.'"

(Notice to be given in the usual way for its adoption as a Bye-law.)

Appointment of Examiners.—The Secretary was instructed to advertise vacancies for Examinerships for the subjects of the Second Year's Examination, after communicating with the present Examiners in Class B.

Steel Memorial Medal.—It was resolved:—

(*a*) That a special sub-committee be appointed to consider the award of the Steel Memorial Medal for 1934.

(*b*) That the sub-committee consist of the President, Sir John M'Fadyean, Professor Craig, Professor Macqueen, Dr. Sheather.

Honorary Associateship. — Nomination was made of an eminent member of the College for election as Honorary Associate, and the Secretary was instructed to place the matter on the agenda of the next Council meeting. It was resolved to recommend: "That the Examination Committee be the special committee for the purpose, in accordance with the Bye-laws."

List of Examiners.—The Secretary submitted a draft list of gentlemen suitable for appointment as Examiners in cases of emergency, for the convenience of the President.

The list was approved.

Bye-law 77.—On the motion of Mr. Holroyd, it was resolved to recommend: "That the following addition be made to Bye-law 77 to follow the first paragraph:—

'Students who pass in all the subjects of an examination group without honours, but who obtain not less than 60 marks in any subject, shall be awarded "credit" in that subject.'"

Final Examination.—On the motion of Colonel Walker, it was resolved:—

(*a*) "That a special committee be appointed to consider the advisability of the appointment of a third External Examiner in the subjects of the Final Year Examination."

(*b*) "That the committee consist of the President, Chairman, Vice-Chairman, Professor Sir F. Hobday, Mr. Holroyd, Mr. Livesey, Colonel Walker and Professor Wooldridge."

Williams Memorial Prize.—The Secretary submitted the report of the auditors on the marks gained by the students in the Final Examinations held in 1933, which showed that the student eligible for the prize was Miss M. Oyler, M.R.C.V.S., of the Royal Veterinary College, London. It was resolved: "That the Williams Memorial Prize for 1933 be awarded to Miss M. Oyler."

Jubilee Memorial Prize Examination.—It was resolved: "That an examination for the Jubilee Memorial Prize be held on September 24th and 25th, 1934."

Examination Fees: Method of Payment.—The method of the payment by students of their examination fees was considered, and it was agreed to refer the matter to the sub-committee appointed in paragraph xiv (*b*).

Cairo Veterinary School.—An application from the Cairo Veterinary School was received for the exemption of its graduates from the first three years of the course for the Diploma of M.R.C.V.S. This matter was referred to a special sub-committee for consideration and report, the sub-committee to consist of the President, Chairman, Major Dunkin, Professor Sir F. Hobday, Sir J. M'Fadyean and Colonel Walker.

Mr. Coleman: Under the recommendations dealing with Animal Management I would like to point out, as I have done before, that the question of intradermal testing is not mentioned, and I suggest that it be specifically mentioned.

Major Kirk: In one of the delegate's reports I see such remarks as "the low standard of examination" and "superficial knowledge." The appointment of extra examiners will not increase the standard of the examinations. It is very perturbing to read this document. The whole of the way through it refers to the lack of material and facilities.

Professor Buxton: The Examination Committee spent a very considerable amount of time considering the several points raised in the reports, and it is with a view to dealing with some of those, at any rate, that many of the recommendations in the report just read to you have been made.

The motion for the adoption of the report was then put and carried.

Registration Committee.

The Registrar read the report of a meeting of the Registration Committee held on Wednesday, January 3rd, as follows, the President moving its reception and adoption, and Colonel Brittlebank seconding the motion, which was carried:—

The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

Cases.

M.2338a.—Saunders, C. G. This member, who was represented by counsel, Mr. Malone, appeared in response to the summons issued to him by the Registrar on the instructions of the Council at its previous meeting, to answer the following charges:—

(*a*) That in a communication addressed by him to *The Farmer and Stockbreeder* and published in that journal on July 3rd, 1933, he gave advice for the information of lay persons instructing them how to dock an eleven-day-old foal, in spite of his undertaking given to the Council on January 10th, 1929, in that in his published advice he recommended a crude method of carrying out the operation referred to regardless of the provisions of the Animals Anæsthetics Act.

The Registrar read the summons, and outlined the case. He also read a letter addressed to the Council by Major Saunders in which he maintained that the advice given was correct, but expressed his regret that he had overlooked the provisions of the Animals Anæsthetics Act.

Mr. Malone then addressed the Council on behalf of Major Saunders and replied to questions put by the Registrar and by members of the committee. The parties then withdrew and the committee deliberated in private.

It was resolved: "That the committee find that the complaint made against Major C. G. Saunders has been proved to their satisfaction and that they

find him guilty of having, in his advice published in *The Farmer and Stockbreeder* on July 3rd, 1933, recommended to lay persons a crude method of carrying out the operation referred to, which in the opinion of the committee is an operation requiring professional knowledge and skill, and had disregarded in his advice the provisions of the Animals Anæsthetics Act, and that in this respect he had been guilty of conduct disgraceful to him in a professional respect within the meaning of Section 6 of the Veterinary Surgeons Act, 1881."

The parties were thereupon recalled and the President, after thanking counsel for the way in which he had conducted the case for the defence, informed him of the finding of the committee and stated that the finding would be reported to Council at its meeting on Friday, January 5th, and the decision of the Council would, in due course, be communicated to the member by the Registrar.

Cases Against Unregistered Persons.

N.92. — Using titles "Canine Specialist"; "Animals treated." The Solicitor reported that an undertaking had been received in this case.

N.94.—Using titles "Canine and Feline Specialist"; "Canine Surgery." The Solicitor reported that an undertaking had been received to discontinue the first-mentioned description.

N.95.—Using titles "Specialists in . . . canine ailments"; "Recommended by the leading veterinary surgeons." This case was deferred for further evidence.

N.96.—Using title "Canine Surgery"; "Twenty years' practical experience with the late R. C. Tayler, M.R.C.V.S." It was resolved that there was no case on which the Council could take action.

N.97.—"Canine and Feline Specialist"; "C.N.I." The Secretary reported that, so far as the evidence in his possession went, it appeared that the offence had been discontinued.

N.98.—"The Dog Specialist." It was resolved that there was no case on which the Council could take action.

N.99.—"Canine Specialist"; "C.A.A.S."

N.100.—"Veterinary Service"; "Under Veterinary Supervision."

The Secretary reported that he had received undertakings in both these cases.

N.101.—Using title "Specialist in all canine diseases." The Secretary submitted correspondence in this case and it was resolved: "That unless a satisfactory undertaking is received a prosecution be instituted if proper evidence is available."

CORRESPONDENCE.

(*a*) P.D.S.A. The Secretary submitted correspondence he had had with the Secretary of the Irish Free State Veterinary Council, and was instructed as to the further reply to be sent.

(*b*) The Secretary submitted other correspondence dealt with during the quarter and his action was approved.

It was then moved and seconded that the Council should go into committee, and this was carried.

On the Council resuming it was resolved: "That the judgment of the Council in the case of Major C. G. Saunders be suspended for six months, the Registrar being instructed to warn this member as to his conduct in the interval."

Authorisation was given for the attachment of the seal of the College to the prosecution ordered.

The Registrar then read the report of a meeting of the Registration Committee held on January 4th, as follows, the President moving its reception and adoption, and Mr. McIntosh seconding the motion:—

The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

CASES.

2510.—This member appeared in answer to the following charge:—

> "That he gave a certificate in respect of a bay hunter mare to the effect that, in his opinion, the animal was sound in wind, eyes and action, whereas in fact the animal was to his knowledge suffering from a heart affection which caused her to be distressed on galloping and that she was consequently unsafe to ride; that his certificate was therefore improper and misleading."

The complainant also attended, and the facts of the case were stated to the committee by the Registrar.

The member answered questions put to him and stated the grounds of his defence.

The parties were then requested to withdraw while the committee deliberated in private.

It was resolved: "That the committee find that the complaint made against this member has been proved."

2474A. Gosling, John.—The Secretary submitted a report from the Criminal Investigation Department of the Portsmouth Civil Police to the effect that at the Winchester Assizes on November 27th, 1933, this member pleaded guilty to the charge of criminal libel, having addressed a libellous post-card to Mr. M. Bridgeman, M.R.C.V.S. The report was to the effect that the prisoner had expressed regret for writing the post-card; promised that it would not occur again and apologised to Mr. Bridgeman, whereupon he was bound over.

It was resolved: "That the Registrar be instructed to address a warning to this member as to his future conduct."

2519.—Alleged covering. The Secretary read correspondence in this case, and it was agreed that no action be taken.

2520.—Alleged advertising. The Secretary submitted an explanation in this case, which was accepted.

2521.—Alleged incorrect certification. The Secretary read correspondence in this case, from which it appeared that the member had undertaken to discontinue his method of carrying out the tuberculin test, concerning which the complaint was made.

It was resolved that no further action be taken in this case.

2522.—Alleged covering. Correspondence was submitted in this case alleging that an unqualified assistant employed by this member was used to visit patients and give advice.

The Registrar was instructed to send a letter of warning to this member.

2523.—Advertising by boards and lamp. The Registrar was instructed to request this member to remove the signs complained of.

2475.—A complaint was submitted concerning the action of Professors at the Royal Veterinary College, but it was resolved "That the matter is not one which comes within the province of the committee."

CORRESPONDENCE.

(*a*) A letter was received from the Scottish Society of Veterinary Inspectors concerning the

action of a veterinary officer of a Research Institute, together with a reply to the complaint sent to the Registrar by the officer in question.

It was resolved: "That the Registrar be instructed to communicate the reply to the Scottish Society of Veterinary Inspectors."

(*b*) A letter was received from a member requesting the opinion of the committee as to the propriety of his name and qualification being used in connection with advertisements of instruments designed by him. The Registrar was instructed to reply that no objection would be raised.

(*c*) *Kelly's Directories.*—A letter was received from the National Veterinary Medical Association asking for an expression of opinion as to whether it would be in order for lists of veterinary surgeons to be published in Kelly's Local Directories if the names and addresses were printed in ordinary type on payment of a small nominal fee.

It was resolved: "That the Registrar be instructed to reply that no objection would be raised."

(*d*) A letter was received from a firm of solicitors asking the opinion of the committee as to whether a certificate of soundness given by a member of the College was in conformity with the usual custom of the profession.

The Registrar was instructed to state that the matter is not one on which the committee desires to express an opinion.

(*e*) A letter was received from a member asking whether it would be in order for members in partnership to form a private limited company and to describe their business by the name of "The —— Veterinary Infirmary, Limited."

The Registrar was instructed to reply that such a description would be improper, but that no objection could be made to the use of the names of the partners in such a company with the addition of the word "Limited."

(*f*) Other correspondence was submitted and the Registrar was instructed as to the replies to be sent.

Applications for Restoration.—Applications were submitted from Mr. Peter Carron and Mr. A. V. Meeke for their names to be restored to the Register, they having been removed by the Registrar under the provisions of Section 5 (4) of the Veterinary Surgeons Act, 1881.

The applications were found to be in order, and it was resolved to recommend: "That the Registrar be instructed to restore the names of Mr. Peter Carron and Mr. Albert Victor Meeke to the Register of Veterinary Surgeons."

Mr. Male: I move we go into committee.

The motion was seconded, and carried, and the Council went into committee.

On the Council resuming, the report was received and adopted.

Colonel Brittlebank: I move in Council that in Case No. 2510 the member do not receive the severest punishment that we can give, but that he receives a severe reprimand with regard to his conduct.

Mr. Coleman: I beg to second that.

The motion was carried.

The Registrar: There are two recommendations with regard to restoration. I do not know whether anyone has any information which would occasion the necessity for reverting into committee, but if not a motion is required in Council instructing the Registrar to restore the names of A. V. Meeke and P. Carron to the Register of Veterinary Surgeons.

Colonel Brittlebank: I move that.

Mr. Simpson: I second.

The President: It has been moved and seconded that these two names be restored to the Register.

The motion was put and carried with the requisite quorum and majority.

Parliamentary Committee.

Colonel Brittlebank read the following report of a meeting of the Parliamentary Committee held on January 3rd, and moved its reception and adoption, Mr. Hughes seconding the motion, which was carried:—

The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

Correspondence.—(*a*) A letter was received from the Ministry of Agriculture with regard to the fees charged by veterinary surgeons, and the Secretary was instructed as to the reply to be sent.

(*b*) A letter was received from the Secretary of the Society of Veterinary Officers informing the Council of its constitution and objects.

Parliamentary Agents.—Messrs. Sherwood and Co. were reappointed Parliamentary Agents at the same fee as hitherto paid.

Parliamentary Bills.—(*a*) *Dogs Protection Bill.*—A copy of this Bill was submitted, and the Secretary was instructed to watch the Bill on behalf of the Council.

(*b*) *Offices Regulation Bill.*—The Secretary submitted a copy of this Bill for the information of the committee.

Slaughter of Animals Act.—(*a*) The Secretary submitted copies of his letters addressed to the Ministry of Health and Ministry of Agriculture, and of the replies received.

(*b*) The Secretary submitted a letter from the Secretary of the Veterinary Officers' Association in regard to this matter, and read the reply he had sent, which was approved.

Patent Veterinary Medicines.—A confidential letter was submitted from the Economic Advisory Council, together with a precis of correspondence received by the Secretary on the subject of the enquiry. It was resolved: "That the Secretary be instructed to draw up a memorandum on the subject and to submit the same for approval to the President and Chairman before submitting it to the Economic Advisory Council."

National Milk Publicity Council.—Professor Buxton was reappointed representative of the Council on the National Milk Publicity Council.

Library and Publications Committee.

Mr. Livesey read the report of the meeting of the Library and Publications Committee held on January 5th, as follows, and moved its reception and adoption, Captain R. Simpson seconding the motion, which was carried:—

The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

Report of Sub-Committee.—The following report of the meetings of the Library Sub-Committee was read:—

> Two meetings of the sub-committee have been held, to consider the publication of the Register for 1934. The contents have been

rearranged in a more logical order, and the Secretary has been instructed as to minor amendments for improving the appearance of the volume. The propriety of publishing trade advertisements in the Register was also considered, and on the proposition of the Treasurer a recommendation was put forward that these should be discontinued.

It was resolved: "That the report be approved, with the exception of the recommendation relating to advertisements in the Register; this, being a matter of finance, is referred to the Finance Committee.

Librarian's Report.—The Librarian submitted a report showing that during the past quarter 204 books had been sent out on loan, of which 95 were text-books and reports, and 109 periodicals. Nineteen books had been lent to the National Central Library, 18 to the London School of Hygiene, and five to the Imperial Bureau of Animal Health. The following purchases have been made: Medical Research Council: Report on Tuberculous Infection in Milk; Ministry of Agriculture: Report on the Feeding of Dairy Cows; Leighton: "Handbook of Meat Inspection," second edition; Feldman: "Neoplasms."

The Librarian's report was approved.

Presentations.—The Librarian reported that during the quarter presentations of 18 volumes of veterinary text-books and periodicals had been made by Major Colin Davenport; Mr. G. N. A. Hall had presented his thesis on "Investigation of Rinderpest Immunisation"; and Mr. F. Ware his "Description of the Imperial Institute of Veterinary Research, Muktesar."

In addition, 21 reports and 76 pamphlets, reprints and dissertations had been received.

In addition to the usual periodicals, the Library was indebted to the National Veterinary Medical Association for the presentation of three journals, and to Professor Sir F. Hobday for the presentation of nine journals. It was resolved: "That the thanks of the Council be conveyed to the respective donors."

Purchases.—The Librarian was instructed to subscribe to the *Tierärztliche Rundschau*, unless other more satisfactory means are found of obtaining this journal.

Register Advertisements.—It was resolved: "That the copy for advertisements proposed to be inserted in the Register be submitted to a sub-committee consisting of the Chairman, Vice-Chairman and Registrar for approval before acceptance."

Report of the Committee of Council on Procedure with regard to the Election of the President and Vice-Presidents

The Secretary read the report of the meeting held on Wednesday, January 3rd, as follows, the President moving its reception and adoption and Mr. Livesey seconding the motion:—

The President stated the object of the meeting, as set out in resolution 15 of the meeting of Council held on October 6th, 1933:—

> "That a special committee be appointed for the purpose of considering the procedure in the election of President and Vice-Presidents.
>
> "That the committee consist of the whole Council, and that the committee be called for the purpose at the Quarterly Meetings in January next."

After some discussion, the meeting was adjourned at 2.45 p.m. while part of the work of the Registration Committee was completed.

On resuming its sitting, and after further discussion, it was resolved:—

(*a*) "That the whole Council, sitting in committee, shall consider nominations for the offices of President and Vice-Presidents at a meeting to be called during the week of the Quarterly Meetings in April each year.

(*b*) "That the nominations agreed on be submitted to the meeting of Council held in the month of June or July, as fixed in accordance with the provisions of Bye-law 11. (New No. Bye-law 10.)

(*c*) "That of the two Vice-Presidents elected, one be the past-President, and the other be regarded as the President-elect."

Sir John M'Fadyean: I desire to make one or two observations. I do not know whether it has struck other members that the business of the Council in connection with the election of President in July last has in effect all the elements which would lend themselves to the construction of a drama—a sort of Greek tragedy, with the title "The Massacre of the City Fathers." I want to ask some questions which are raised by these proceedings. The first is, What is the Selection Committee? I pause here to state that I am quite entitled to state the matter as if it concerned the life of the Selection Committee, because I asked the particular question of you, Mr. President, and was told that if these measures were put into force it would mean the disappearance of the existing Selection Committee. I am certain that Mr. Willett's mind was confused when he spoke at the meeting in question. He quite obviously was under the impression that in some way the recommendation of the Selection Committee tied the hands of the Council. That is absolutely a mistake, and he was also mistaken in the allusions which he made to the status of the committee. He certainly used language which implied that it was not a body which had the authority of the Council behind it; that it was a sort of hole-and-corner affair. That is entirely wrong. The point I want to emphasise is that it did not in the least tie the hands of the Council, and it never was intended, at the time the committee was first formed, that it should do so. What was the object? It is some considerable time ago, and I personally had nothing to do with its formation, but I believe it first functioned under the term "The Chairmen's Committee," and that it was at the instigation of Mr. Slocock at the time he was President. It follows from that that the sole duty of the committee was to make a recommendation. This arrangement had the effect of imparting a sort of orderliness to the opening of the Council meeting for the election of the President, but it also means that the members of the Selection Committee are not impeachable on any head except that they fail to discharge their duties conscientiously.

In the next place I ask, What is the offence? If you cast your minds back over the proceedings you will find it never was formulated; but

I venture to say that the circumstances beyond any doubt have made the answer that the offence was that the committee made one nomination, and/or, as the lawyers say, that they failed to nominate someone else. They are not impeachable on any other head.

I would also like to point out that the words used in the resolution passed at the special meeting of Council will not tie the hands of the Council. It is impossible that they can deprive the Council in full constitution of its sole right of deciding who shall be President. These resolutions have been taken with the intended effect of abolishing the Selection Committee. It has been represented that the destruction of the committee is somehow necessary: that it is not only necessary but that it is urgent. My principal point about that is that it makes no material difference. It complicates it. The Council is to meet twice in order to advise or consult about it.

I ask the Council to consider the matter again without bias, and to take full account of the fact that this will certainly be regarded as justly causing offence to the Selection Committee, and that it will leave a feeling which will rankle for a long time to come. There is no immediate danger to the corporate body about this election of a President as long as it is clearly understood that that election lies exclusively in the hands of the Council.

I suggest, Mr. President, that this is, so to speak, holding out the olive branch. I think this is a convenient moment at which to allay this disturbance and disquiet, and to withdraw any aspersions on the Council by dropping the whole thing, and accordingly I move that the report be approved except the part beginning "(*a*)" and including (*b*) and (*c*).

Professor Bradley: In a word I second Sir John M'Fadyean's amendment. I do not wish to say anything in particular, as anything coming from me might be out of place, seeing that I am one of the condemned people.

Professor Craig: I should like to support the motion, and in doing so I want to refer to (*c*) with regard to the Vice-Presidents, and particularly that part which suggests that one of the Vice-Presidents should be regarded as the person likely to be elected on a future occasion as President. I do not think that matter was ever put before the committee and voted upon at all.

The President: It was put to the meeting. The votes were not counted, but there was a large chorus of "Ayes" from all over the room when the proposal was put, and that is quite a common acceptance of a motion being carried.

There is a motion before this meeting "That the report be received and adopted," and there is now an amendment before the meeting, the effect of which is to cut the report in half and to show that, while an attempt was made to alter procedure, it failed. If there is no further discussion I will put the amendment to the meeting.

Mr. Coleman: I would like to ask one question. What is the difference between the constitution of this august Committee of Nomination and the constitution of an ordinary committee of the Council? When an ordinary committee in the past has put forward a suggestion which has not been approved by the Council I never heard such a fuss as this made if the suggestion was rejected. Why is all this fuss being made in this case? It does not seem to me a very noble way of proceeding.

Mr. Livesey: I should like to say, as one voting for the report, that I never for one moment (and I hope the past-Presidents who are here will accept my word), nor do I believe any of my confrères on the Council, desired to pass any reflection upon the integrity, or upon the honour, or upon the goodwill, of any of our past-Presidents. (Hear, hear.) I cannot let that suggestion pass to-day in silence.

Sir John M'Fadyean: May I say that we are judges of our own honour. You must not say that we do not feel it a dishonour.

Mr. Livesey: One regrets very much that you should feel it so, Sir. I cannot see that if a committee of the Council makes a report, and that report does not meet with the approval or satisfaction of other members of the Council, why that should be taken as some personal reflection upon yourself.

Sir John M'Fadyean: It is the destruction of the committee which we feel is a degradation.

Mr. Livesey: That is all I have to say, and I am profoundly sorry.

Mr. McIntosh: I should like to support Mr. Livesey's view, and to say that as far as I personally am concerned I cast no reflection at all on anybody else. I am sure it is the same with every other member of Council. All of us have the very highest respect for every one of our past-Presidents. That, however, does not prevent us from taking a different view of matters which they might submit. I am sorry that our past-Presidents should take this matter so much to heart; it makes it all very difficult, as every member respects our past-Presidents.

Major Dunkin: I had a good deal to say on this matter yesterday afternoon, but I am not going to deal with it very lengthily to-day. I do not propose to allow it to go out from this Council that the past-Presidents are the only people who feel sore about the action which has been taken. I am aware that those people think that they have been treated abominably, and I can quite feel with them. I agree entirely with everything Sir John M'Fadyean has said. No one in this room, of course, intends discourtesy or dishonour to our distinguished past-Presidents—not a single one, but it is astonishing what can be done by a tiny little bit of

thoughtlessness, and that, in my submission, has been done. No one has suggested in this Council—and no one knows it better than Mr. Coleman—that the Nominations Committee are taking offence because their nomination was not accepted. That is the very thing which Sir John has been pointing out to us. They are, as they have been properly described, a Nominations Committee. They are not an Appointments Committee. That is for the Council. Sir John has pointed out that nobody but this Council has the power to appoint a President. The objection I have, and I presume it is the same objection which the past-Presidents have, to the proceedings which took place on that memorable occasion, which I hope we shall soon forget, is to the uncalled-for remarks about the committee composed of the most distinguished men in our profession. It is that to which I object.

The President: I do not want to enter into the discussion, but I would like to point out that the past-Presidents have not been in any way passed over. The Selection Committee has only been added to. All the past-Presidents are still part of the Nominations Committee. Is there any further discussion?

Sir John M'Fadyean: Perhaps you will allow me to reply. I say that in the first place we must claim to be the judges of our own honour, and I can only lament that some members of the Council have a lighter sense of honour than we have. ("No, no.") That, I think, is obvious. Nobody has risen to say what cause of offence we gave in either of the alternatives. In what sense was it offensive that we should, not exceeding the powers vested in us, recommend a certain member as President? And the alternative question I must put, namely, in what sense were we obliged to nominate another member?

The President: I will now put the amendment to the meeting.

Professor Macqueen: I should like to say a word.

The President: I think you are really out of order, but I do not want to stand in the way of discussion.

Professor Macqueen: My view of the situation is simply this—that a great many members of Council are of opinion that the election of a President should be open to the whole meeting. What Sir John stated is quite correct—that the ultimate decision is left to the Council, but what those who support the report feel is that these nominations should be made in Council and not in a committee. That is the only difference. There is really no harm in enlarging the committee to include every member of the Council. We shall know where we stand without having to consider the nominations of a small committee of past-Presidents. There is no reflection on the past-Presidents, or their actions or work, but there is a desire, I understand, that we should have the nominations made in the presence of the whole of the Council.

The President: I will now put the amendment, and I want to make quite sure that you are clear what the amendment is. The amendment is that the report be passed down to the word "completed"; that is to say, you cut out the whole of the recommendations, and you simply leave in the fact that the committee met. So that the report is really cancelled if the amendment goes through.

The amendment was then put and lost by a large majority.

The President: I will now put the motion that the report be received and adopted.

The motion was then put and carried.

TO APPOINT RESERVE EXAMINERS

The President: This item disappears. In actual fact the list is drawn up, and it has been approved as a reserve list. It is not to appoint the gentlemen; it is a list simply for the guidance of the President for the time being in case it is necessary to appoint a substitute examiner in some emergency.

PLACE OF ANNUAL MEETING

On the motion of Mr. Coleman, seconded by Mr. McIntosh, it was agreed that the place of the Annual Meeting should be London.

ANNUAL DINNER

On the motion of Major Dunkin, seconded by Mr. Male, it was agreed that there should be an annual dinner and that it should be held on Thursday, April 5th. On the motion of Mr. Coleman, it was agreed that the existing Dinner Committee should be re-elected, with the addition of Major Kirk.

NOTICE OF MOTION

The Secretary: I give formal notice that there will be suspended to-day, and will be moved for adoption at the Council meeting in April, the alterations to Bye-laws already reported to the Council in the recommendations of the Examination Committee.

ANY OTHER MATTERS

Mr. Nairn: As it is within the knowledge of most of us that very great changes may shortly be proposed in legislation affecting the future of our profession, and as these must have serious repercussions, I beg to move and appeal to this Council to adopt the following resolution:—

"That in the opinion of this Council any scheme for the reorganisation of the national veterinary services can best attain the desired result by utilising to the fullest extent the services of all branches of the veterinary profession."

Major Kirk seconded the motion, and suggested as an addition that the resolution be

forwarded to those bodies that are interested in drafting such proposals.

Colonel Simpson: I suggest that this motion should be referred to the Parliamentary Committee for consideration.

Major Kirk: It will be too late.

After further discussion the motion was put to the meeting and carried, and the Secretary was instructed to forward the resolution at once to the Privy Council, the Economic Advisory Council, the Agricultural Research Council, and the Ministry of Agriculture.

A vote of thanks was then passed to the President, and the meeting terminated.

VICTORIA VETERINARY BENEVOLENT FUND

Contributions and Cases

A meeting of the Victoria Veterinary Benevolent Fund was held at the College, 10, Red Lion Square, London, W.C.1, on Thursday, January 4th, 1934, when there were present Lieut.-Colonel J. W. Brittlebank (President) in the chair, Dr. O. Charnock Bradley, Professor J. B. Buxton, Messrs. G. H. Locke, J. W. McIntosh, Major-General Sir John Moore, Messrs. W. Nairn, Arnold Spicer, J. Willett, Captain W. G. Wragg and Lieut.-Colonel T. Dunlop Young.

The minutes of the previous meeting, having been published in *The Veterinary Record*, were taken as read and signed as correct.

Apologies for absence were received from Major Gooch, Captain Rider, Mr. Woods, Major Townsend and Mr. W. Jackson Young.

SECRETARY'S REPORT

The Secretary submitted the following report, which was approved:—

The sum of £63 14s. 7d. was received in response to the Christmas (Special Contributions) Appeal.

In addition, the following subscriptions and donations have been received since the date of the previous quarterly meeting:—

Donations

	£	s.	d.
W. Collinson	2	2	0
H. W. Dawes		10	6
R. Eaglesham		10	6
Major T. H. Hobson	6	10	0
Ladies' Veterinary Benevolent Guild	100	0	0
Mrs. T. M. Main	10	10	0
G. A. Sangster		10	0
Captain R. Simpson, proceeds of N.V.M.A. Golf Competitions	10	2	6
Mrs. Walker	4	4	0
	£134	19	6

Collecting Boxes

	£	s.	d.	
J. L. Cormack ...	3	0	0	
Derbyshire Division, N.V.M.A. ...	1	2	6	
H. Gillmor	1	11	6	
J. R. Hewer ...		10	0	
Lincolnshire V.M.A.	1	10	0	
C. Masson		10	0	
Mid-West and South Wales Division, N.V.M.A. ...	2	12	6	
North of England Division, N.V.M.A.	1	0	6	
North Wales Division, N.V.M.A. ...	1	10	6	
L. P. Pugh		2	6	
Royal (Dick) Veterinary College ...		15	0	
G. V. Slinn, collection from local traders	27	2	0	
Scottish Metropolitan Division, N.V.M.A. ...	1	0	0	
H. Taylor		2	0	
J. H. Thomson ...	1	11	6	
Western Counties V.M.A.	4	0	0	
A. Whicher ...	5	3	9	
T. Dunlop Young ...		10	0	
W. Jackson Young	2	15	6	
				£56 9 9
				£191 9 3

In addition to the handsome donation of £100 referred to above as having been received from the Ladies' Guild, I have also to acknowledge receipt of a subscription of £10 towards current relief from the same source.

The donation of £10 10s. from Mrs. Main represents the proceeds of a dance given by the Social Section of the Barnet District Canine Society to mark their sincere appreciation of the services of Mr. F. G. Buxton, who has acted as Honorary Veterinary Surgeon to the Society for the past ten years.

Two other items deserve special mention, namely, the donation of £10 2s. 6d., being the proceeds of the Golf Competition for the Simpson Trophy, and the splendid collecting box contribution of £27 2s. received from Mr. G. V. Slinn. To all the good friends of the Fund whose names are here given the Council owes a deep debt of gratitude.

It was resolved: "That the sincere thanks of the Council be addressed to the Ladies' Guild, Mrs. Main, Mr. Slinn and the organisers of the Simpson Trophy Competition."

Wortley Axe Fund.—A statement submitted by the Secretary regarding the Wortley Axe Fund was received and considered, and it was agreed to refer the matter to the officers of the Fund for examination and report.

CASES

82.—Member, aged 70. Out of work. Wife earns £1 a week. Rent 12s. weekly. This matter was left in the hands of the Executive Committee.

104.—Widow, aged 51. Maternity nurse. Maintains mother-in-law, aged 82. It was agreed to continue the grant of £1 per week.

115.—Member, aged 69. Out of work. The grant of 15s. per week in this case was continued.

144.—Daughter of member, aged 44. Separated from husband, who allows £2 per week. Two children. A report on this case was received from a member of the Ladies' Guild, and it was decided that no grant should be made in this case.

166.—Widow, in sanatorium. Two children in orphanage. Father-in-law contributes 10s. weekly to the Fund. The grant of £1 per week is to continue, and the Secretary was instructed to convey the cordial thanks of the Council to the Civil Service Benevolent Fund for their help in this case.

170.—Widow, aged 47. One daughter, aged 21, delicate; one son, aged nine. The grant of 10s. per week was continued.

177.—Widow, aged 87. Only income, old age pension. Assisted by nephew, but needs to be sent to a home. This case was left in the hands of the Executive Committee, Dr. Bradley undertaking to make suitable enquiries.

Investments.—The Treasurer was authorised to invest the accumulated donations in a suitable investment.

AGRICULTURAL CONGRESS IN BUDAPEST

The International Congress of Agriculture will meet in Budapest from June 13th to 20th. The Congress is held every two years in a different European capital, and is attended by delegates from about 30 countries, who represent every side of agricultural life. Different sections of the Congress consider such subjects as agricultural policy and prices, marketing, quotas and tariffs, education, co-operation, and the problems of plant and animal production. A few British delegates, representing agricultural bodies, have always attended the Congress, but this year it is hoped that a wider circle of those connected with agriculture and rural life will visit Hungary. The National Federation of Women's Institutes is already making the Congress known among its members, and it is expected that English countrywomen will be well represented at Budapest.

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To prevent musk rats becoming a menace in the Isle of Man, a Bill has been introduced into the Manx Legislature prohibiting the import of these animals into the island except by permit, which, it is pointed out, will only be granted in exceptional circumstances.

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

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DIARY OF EVENTS

Feb. 5th.—Meeting of the Editorial Committee, N.V.M.A., at 2, Verulam Buildings, Gray's Inn, W.C.1, at 4.30 p.m.

Feb. 8th.—Annual General Meeting of the Lincolnshire and District Division, N.V.M.A., at Grantham.

Feb. 9th.—North Midland Division, N.V.M.A., Annual Dinner-Dance, Grand Hotel, Sheffield.

Feb. 9th.—Annual General Meeting of the Eastern Counties Division, N.V.M.A., at Norwich.

Feb. 16th.—Annual Dance of the Royal Veterinary College Students' Union Society, Chiltern Hall, Baker Street, N.W.

July 30th-Aug. 3rd, 1934.—National Veterinary Medical Association Congress, Edinburgh.

Aug. 13th-18th, 1934.—Twelfth International Veterinary Congress, New York.

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R.C.V.S. COUNCIL ELECTION

We learn that in addition to Mr. R. Hughes, Major Abson and Captain Wragg are not seeking re-election to the Council of the Royal College this year. Major Abson has been a member since 1894, and has thus served for 40 years. This is the longest period served by any member, save Sir John M'Fadyean, who has been a member of the Council for 41 years. Major Abson was President of the College as far back as 1905, has been three times a Vice-President, and was Treasurer from 1924 to 1931.

An additional nomination has been received, namely, that of Dr. J. T. Edwards, who is being proposed by Sir John M'Fadyean and Dr. Bradley. The list up to date is, therefore, Colonel J. W. Brittlebank, Captain J. C. Coleman, Captain H. W. Dawes, Dr. J. T. Edwards, Mr. G. H. Livesey, Major A. Spreull, Colonel G. K. Walker. There are thus seven nominations for eight vacancies.

The voting papers are being issued this week to overseas members, but as and when further nominations are received, mention will be made of them in this column.

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PERSONAL

Professor J. B. Buxton's Professorial Fellowship

The announcement was made at Cambridge, on January 28th, that at Queen's College, Professor James Basil Buxton, M.A., F.R.C.V.S., D.V.H.,

Professor of Animal Pathology, has been elected into a Professorial Fellowship.

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We have often been privileged in the past to congratulate Professor J. B. Buxton on the numerous distinctions which have been conferred upon him. It is with very great pleasure, therefore, that we now record his election to a Professorial Fellowship at Queen's College, Cambridge.

When the Chair of Animal Pathology in the University of Cambridge was established in 1923, it was generally felt that a very wise choice had been made in the selection of Professor Buxton as its first occupant, for it was realised that the founding of a new Institute in Animal Pathology within one of the older Universities—in itself an event of considerable importance in the progress of veterinary science in this country—was a task of great magnitude which demanded the services of a man possessed of high administrative ability and a firm determination to overcome the numerous problems which would inevitably confront a young and growing Institute. The important place which that Institute now occupies both within the University and the profession is an eloquent testimony to the capabilities and tenacity of purpose of its Director.

The election of Professor Buxton to this Fellowship is an expression of the high esteem in which he is held in the University. It will also afford much pleasure to all who realise the great efforts he has made to advance the cause of veterinary science.

Professor Buxton's first professional post was that of Lecturer in Veterinary Hygiene at the Royal (Dick) Veterinary College, Edinburgh, but in 1912 he was appointed as Veterinary Superintendent at the Wellcome Physiological Research Laboratories at Beckenham. This was a newly-created post, marking the beginning of a Veterinary Research Department. After ten years' service in this institution he was offered the newly-created post of Director of the Farm Laboratories of the Medical Research Council, with a view to forming a veterinary research department in connection with the National Institute for Medical Research. There he was responsible for the initiation of research into distemper of dogs under the ægis of the Field Distemper Fund.

When in 1923 the Development Commissioners brought forward, through the Ministry of Agriculture, a scheme for the creation of an Institute for Research into Animal Diseases at Cambridge, and the establishment of a Professorship of Animal Pathology within the University, Mr. Buxton was invited to become the first occupant of the Chair, and to take on the Directorship of the Research Institute. He was elected to this dual post in August, 1923, so that for the third time in eleven years he was called upon to build up a research institute *ab initio*. Under his Directorship, the Research Institute at Cambridge has made remarkable progress, and is acknowledged to be the most important of its kind in the country.

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Birth.—To Mr. and Mrs. J. M. Armfield, at Bishop's Stortford Cottage Hospital, on January 26th, 1934, a daughter.

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At a recent meeting of the Yorkshire Agricultural Society a letter was received from Mr. G. E. Bowman, M.R.C.V.S., of Leeds, resigning his position as official veterinary inspector to the Society, which post he has held for many years. The Council accepted the resignation with great regret, and elected Mr. Bowman a Hon. Vice-President in recognition of his long and valuable services to the Society.

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Mr. W. C. Barry, M.R.C.V.S., formerly District Superintendent of the Wellington Province of New Zealand in the Department of Agriculture, has now been promoted to Director of the Live-stock Division of the Department of Agriculture. This promotion (writes a correspondent from New Zealand) is very popular amongst New Zealand Government officers.

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OBITUARY.

Sir William Hardy, F.R.S.

(Contributed)

The scientific world mourns the death, at Cambridge, of Sir William Bate Hardy, Director of Food Investigation of the Department of Scientific and Industrial Research, at the age of 69 years. He was educated at Framlingham College, and at Gonville and Caius College, where he was subsequently elected into a Fellowship. He was elected a Fellow of The Royal Society in 1902, and was one of the very few scientists to be asked to deliver the two most coveted lectures of that Society. In 1907, he gave the biological Croonian lecture, and in 1925 he delivered the Bakerian lecture, which is reserved for workers in physical science. For a number of years he was Secretary of the Royal Society and was awarded a Royal Medal in 1926. But Hardy's interests were not solely those of science; he was a man of wide knowledge. He was an authority on silver and gold plate, a trustee of the National Gallery, a keen follower of music and a great yachtsman.

His original work began in the realms of histology, and he early drew attention to a number of artefacts produced by the technique of his day. His study of the cell led him into physical chemistry and he did much of the pioneer work on colloids. The stability of colloid sols in relation to the electric charge, the theory of flocculation, the nature and importance of the iso-electric point, the theory of protein ampholytes and the electric charges of the colloid ions represent some of the important discoveries with which his name will be for ever associated. Hardy was also a pioneer in the elucidation of the nature of surface forces and surface films and the orientation of molecules at surfaces. This work forms the basis of all the recent highly important developments in the new science of surface chemistry, both in biology and in the physico - chemical sciences. Hardy himself studied lubrication and showed that friction and lubrication depend on the structure and molecular orientation of surface films.

He was Secretary of the Food (War) Committee of the Royal Society, and in 1917 was made Director of Food Investigation. Since then he has built up a world-wide organisation of food research, but particularly three laboratories in this country owe their origin and development to his direction, *viz.*, the Low Temperature Research Station at Cambridge,

the Ditton Laboratory and the Torry Research Station. Very much fundamental and applied research has emanated from these laboratories during the last few years and results of great value to industry have been obtained.

Hardy had a somewhat gruff manner with visitors, but this could readily be brushed aside, when a kindly heart and sympathetic adviser were readily discerned. He was always ready to help a young man, and imbued many of them with his enthusiasm for the unravelling of scientific facts. To the writer he was a great friend, a severe critic but a trusted adviser. The man unfortunately has gone, but his personality will assuredly live.

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Funeral of Mr. F. W. Somers.

Mr. Francis William Somers, M.R.C.V.S., the well-known Leeds veterinary surgeon of Repton Lodge, Otley Road, Bramhope, who, as recorded in our last issue, passed away on January 17th., was buried in Arthington Churchyard. This was in accordance with Mr. Somers' wish, for although he had lived in Arthington only a few months, he was very fond of the district.

The veterinary profession was represented by Colonel H. G. Bowes, of Leeds, and Mr. G. E. Bowman, of Leeds. The Sporting Terriers' Association was represented by Mr. H. P. Ward, of Leeds, and the National Master Farriers' and Blacksmiths' Association by Mr. D. Carson, general secretary.

For 30 years Mr. Somers was veterinary surgeon to Messrs. Bostock and Wombwell's menagerie, and among the floral tributes was a wreath from Mr. E. H. Bostock and family, of Glasgow.

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LICENSING OF BULLS: ADVISORY COMMITTEE APPOINTED.

The Minister of Agriculture has appointed a Committee to advise him on matters connected with the administration of the Improvement of Livestock (Licensing of Bulls) Act, 1931, which will come into force in England and Wales on August 1st.

The Committee will consist of the following:—

Sir Merrik B. Burrell, C.B.E., chairman.

Mr. B. J. Gates, Mr. J. H. Wain, and Mr. T. Williams, nominated by the National Farmers' Union.

Mr. F. H. Sanderson, the Rev. C .H. Brocklebank, and Mr. C. H. Brigg, nominated by the National Cattle Breeders' Association.

The Secretary of the Committee is Mr. R. Ross, to whom all communications respecting the work of the Committee should be addressed at 8, Buckingham Gate, S.W1.

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£1,155 FOR INJURIES TO RACEHORSE

In the King's Bench Division of the High Court, in a recent action, Mr. Justice Macnaughton awarded £1,100 guineas to Sir Alfred Butt, M.P., of St. James's Square, S.W., who sought to recover damages from Mr. C. Easterbee, of Manor Cottage, Stockbridge, Hants, for injuries to his (the plaintiff's) racehorse Largition, on the public highway in July last. The plaintiff alleged that the injuries were caused through the negligence of the defendant's servant or agent, who was driving a motor horse-box, which came into contact with the horse.

The negligence alleged was the failure of the defendant's driver to observe a signal, and that, apart from any signal, he ought in the circumstances to have stopped. His Lordship thought that, having regard to the narrow lane, with banks on either side, the driver of the vehicle, 7-ft. wide, seeing a horse which he recognised as a racehorse coming in the opposite direction, should have stopped, as a reasonable person certainly would have done.

The injuries to the animal consisted of a skin wound on the fetlock, a graze down the pastern, a wound round the coronet, and cracking of the pedal bone. The result of the injuries was that instead of the horse being worth £3,000, a sum which Sir Alfred Butt would not have accepted for the animal before the accident, its value was now only £100.

Correspondence

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

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SHEEP SCAB CONTROL IN YORKSHIRE

To the Editor of The Veterinary Record.

Sir,—In your issue of January 20th, you published a note relative to the serious sheep scab position in Yorkshire. This, it will be noted, is in the West Riding of that County which also possesses the largest whole-time service in the country—some eleven members, I believe, and the Agricultural Committee recommends that *another* be appointed to deal with the disease—a drop in the ocean!

The Ministry has had to mobilise its men to cope with the disease. This disease comes under the jurisdiction of local authorities, and the steps taken by the Ministry of Agriculture make it obvious that whole-time service is inadequate.

According to the reviewer of the last report of the C.V.O. of that Riding, more men would be required in order to examine the *whole* of the cows under the Milk Orders *twice* a year, as, owing to the scarcity of officers, it was impossible to do this.

Would it not be better for *every* veterinary surgeon to be enlisted for his own district, co-ordinated by a State Veterinary Service of Animal Health, administered by veterinary surgeons?

In this way, especially in a hill country such as is the West Riding, with its scattered farms and hill "sheep runs," scab could be kept in check by a bi-annual round up, examination and dip, the milk examinations more *sufficiently* and quite as *efficiently* carried out, and as things are shaping in the way of additional men, more *economically*.

I have the honour to be, Sir,

Your obedient Servant,

J. W. Hall Masheter.

Newnham-on-Severn.

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THE DIAGNOSIS OF PYLORIC STENOSIS IN THE DOG

To the Editor of The Veterinary Record.

Sir,—Holding the conviction that any clinician who expresses an opinion which gives rise to doubt in the mind of a brother practitioner should produce the evidence from which he has drawn his deductions, I beg leave further to encroach upon your space in order to report a case which I diagnosed as pyloric stenosis and which opportunely occurred during the current week.

About 7 p.m. on Monday, January 22nd, a beagle which is kept as a house pet ran indoors from the garden and was violently sick, vomiting her last meal and what the owner described as a "lot of rubbish" she had scavenged from the garden. Amongst this vomited mass were several small splinters of bone. Retching and vomiting of mucus and froth, with stridor and rigors, occurred at intervals until 2 a.m. on January 23rd. Late at night some blood-stained mucus was vomited. During the spasms the bowels very actively operated on two occasions.

The patient was kept very warm and a little brandy with alkaline carbonates administered, followed later by a tablespoonful of warm milk which was retained for an hour, then vomited. *There was never any indication of œsophageal obstruction or wounding.*

Next morning the spasms were less frequent and less violent and the treatment was continued. Later in the day hourly doses of one tablespoonful of warm milk were given and retained until 9 p.m. *Then apparently all this milk, in a curdled state, was vomited at once. This vomition appeared to be voluntary and was unaccompanied by stridor, rigors or retching. I read this as a sign that gastric digestion of the milk was completed but that the physiological dilatation of the pylorus did not take place, as a result of injury,* and the patient promptly unloaded an uncomfortably distended stomach. *Palpation of the abdomen shewed the intestines to be empty!* Further I read that the milk had soothed the irritation of the gastric mucosa, neutralised acidity and absorbed the extraordinary amount of secretion thus set up.

Treatment was continued on the 24th. In the evening a curd-like evacuation of the bowels occurred and I assumed the pylorus was then recovering its tone and dilating sufficiently for fluids to pass through. On the morning of the 25th the bowels acted normally and the animal freely drank milk which was retained. As she was very hungry some digestive biscuits were allowed, eaten and retained, and later an egg custard was taken and retained.

The animal is now apparently well. Had she not made an early recovery I intended to ask the owner's permission to attempt to obtain a "film" shewing (*a*) the occluded pylorus; (*b*) the ballooning of the stomach, and (*c*) the churning movements described in my letter of last week.

Faithfully yours.

David Eric Wilkinson.

Chigwell.
January 28th, 1934.

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N.V.M.A. SWINE FEVER ADVISORY COMMITTEE

To the Editor of The Veterinary Record

Sir,—One reads with interest and no little amazement the list of members of the Swine Fever Advisory Committee. This list consists of four laboratory workers, the Veterinary Officer to the City of Liverpool and an Inspector of the Ministry of Agriculture. A close scrutiny of the list fails to reveal the name of a single veterinarian with a thorough practical experience of pig diseases.

Is it any wonder that we are so long in waiting, and as far as I can see, likely to wait indefinitely, for a full description of the differential diagnosis of swine fever? It is futile to suppose that men—however capable—with little practical experience of swine and the diseases common to them, are likely to arrive at any satisfactory solution of our difficulties. Mr. Powley may claim to have an extensive field experience, but that experience has, of necessity, been confined within narrow limits.

If our knowledge is to progress it is useless to appoint men whose intimate knowledge of pigs and pig diseases is superficial; it is essential to appoint at least some men who handle pigs in large numbers and whose experience has been gained in their effort to combat diseases of all kinds in swine.

It is only by a complete co-operation between experienced laboratory workers and experienced field-workers that any real progress will be made.

The constitution of the present Committee is the almost perfect example of the proverbial red herring.

Yours faithfully,

E. F. Beckett.

Blandford, Dorset.
January 27th, 1934.

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REPRINTS OF ARTICLES FROM *THE VETERINARY RECORD*

To the Editor of The Veterinary Record.

Sir,—The paper on "Present-Day Legislation Affecting Production of Milk at the Farm," by Major Brennan DeVine, printed in *The Veterinary Record* to-day, is, I think, of such great interest and value to veterinary surgeons who, like myself, are part-time inspectors, that it would be useful to have it reprinted in pamphlet form for preservation and future reference. The same remark applies to many articles that appear in the *Record*. Were this plan adopted, one could then collect and bind or keep together articles which appear on specific subjects.

Of course, one can and does preserve one's copies of *The Veterinary Record*, but when one has an accumulation of 35 years' "Records" it becomes rather unwieldly to handle.

Hoping that you will give this suggestion your kind consideration.

Yours faithfully,

J. Stewart Wood.

Walton Lodge,
North Road, Parkstone.
January 27th, 1934.

[The matter raised by our correspondent is now under consideration.—Ed., *V.R.*]

The Editor acknowledges, with thanks, the receipt of the following:—

Communications from Major G. W. Dunkin (London), Mr. R. E. Glover (Cambridge), Mr. G. Witenberg (Jerusalem) and Professor J. G. Wright (London).

Report of a meeting of the Southern Counties Division, N.V.M.A., from Mr. J. B. White, Hon. Secretary.

Advertiser's Announcement.

Copies of *The Bloodless Phlebotomist*, Vol. VIII, No. 1, are now being posted to the members of the medical and allied professions.

This little journal, published by the Denver Chemical Manufacturing Company of London, is replete with interesting articles written by physicians in many different countries and while the purpose of the publication is to acquaint its medical readers with Antiphlogistine Dressing, they will find a number of items and illustrations which will excite their curiosity and interest. Altogether, the little journal is well worth reading, and it may be noted that 1,260,000 copies have been printed in nine languages and distributed to every member of the medical and allied professions throughout the world with a known address, excepting in the countries of Russia, Latvia and Bulgaria.

If you do not receive a copy write to the Denver Chemical Manufacturing Company, London, E.3, who will place your name on their list. The journal will be sent free of all charges.